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ABSTRACT

Provided are statistical projections for elementary and secondary schools and institutions of higher education. The statistics include enrollments, high school graduates, teachers, expenditures of educational institutions, and charges to students of institutions of higher education. These projections supersede those shown in the 1985-1986 edition. Each chapter consists of data tables and graphs preceded by a brief introduction discussion. The first of two appendices provides details of statistical methods employed in the projection along with a glossary of terms. The second appendix contains tables predicting school-age population to 1987, and tables documenting fundings for educational institutions and activities. (RE)

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Projections of Education Statistics to 1986-87

National Center for Education Statistics

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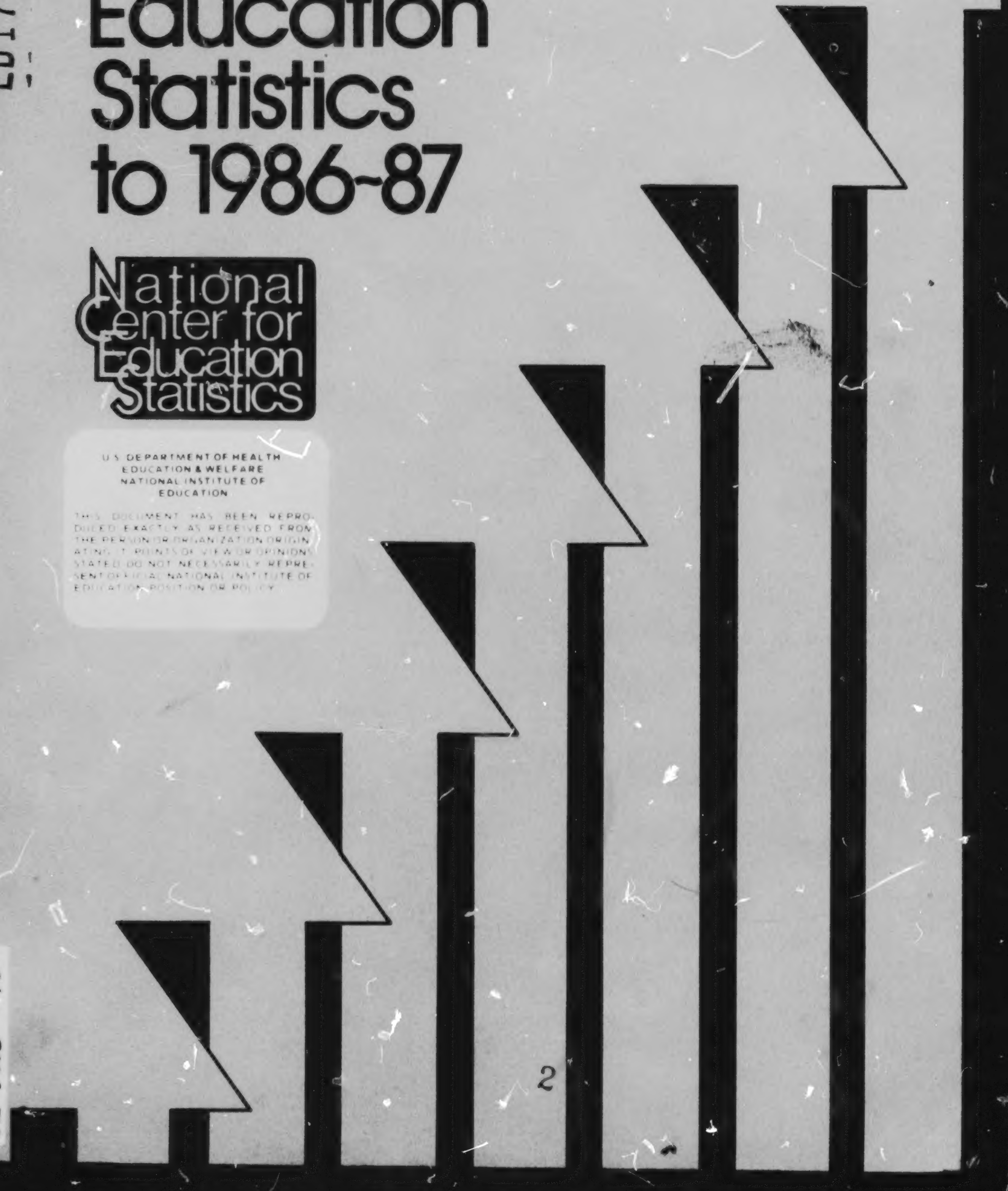

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HIGHLIGHTS

If present trends continue, decreases can be expected in–

- Enrollment in all regular public and private elementary and secondary day schools:
  - From 49.3 million in 1976 to 45.2 million in 1986.

- High school graduates from all public and private secondary day schools:
  - From 3.1 million in 1976-77 to 2.7 million in 1986-87.

- Bachelor's degrees granted by institutions of higher education:
  - From 980,000 in 1976-77 to 979,000 in 1986-87.

and increases can be expected in–

- Enrollment in institutions of higher education:
  - From 11.0 million in 1976 to 12.9 million in 1986.

- Full-time-equivalent teachers in all regular public and private elementary and secondary schools:
  - From 2,440,000 in 1976 to 2,454,000 in 1986.

- Full-time-equivalent instructional staff for resident courses in institutions of higher education:
  - From 584,000 in 1976 to 599,000 in 1986.

- Total expenditures of all regular public and private elementary and secondary schools:
  - From 85.1 billion in 1976-77 to 105.1 billion in 1986-87 (in 1976-77 dollars).

- Total expenditures of institutions of higher education:
  - From 45.5 billion in 1976-77 to 48.0 billion in 1986-87 (in 1976-77 dollars).

Projections of Education Statistics to 1986-87

Editor

Martin M. Frankel

National Center
for Education Statistics

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FOREWORD

This publication provides projections of statistics for elementary and secondary schools and institutions of higher education. The statistics include enrollments, graduates, teachers, and expenditures. The projections, which supersede those shown in *Projections of Education Statistics to 1985-86*, 1976 edition, are based mainly on 1966-67 to 1976-77 National Center for Education Statistics data and cover the period of 1977-78 to 1986-87 for the United States. Table 1 is a summary of these projections and is available separately in a pocket-sized folder as *Statistics of Trends in Education, 1966-67 to 1986-87*, 1977 edition.

This publication is revised each year in order to take into account the most recent information, much of which is collected annually by the National Center for Education Statistics. Also, the latest population projections and estimates from the Bureau of the Census are incorporated annually, since the projections in this publication are, to a large extent, demographically based. In addition, the projections are dependent on assumptions that should be reexamined as often as possible.

Most of the projections in this publication are based on three alternative sets of explicitly stated assumptions, resulting in high, intermediate and low alternative projections. Although the intermediate projections are the "preferred" set of projections, the high and low alternatives supply a range of possible future outcomes.

Mary A. Golladay
Acting Director
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Chapter I
INTRODUCTION

GUIDE TO THE PUBLICATION

This is the fourteenth in a series of annual publications of projections of data on education, revised each year in order to take account of current information and emerging trends.

The publication contains a variety of tables, charts, and narrative presenting enrollment, teacher, graduate, and expenditure data for past years and projections for the next 10 years. Footnotes to the tables provide (1) assumptions underlying the projections, (2) published sources of the data [usually National Center for Education Statistics (NCES) surveys], and (3) references to tables and other data in the appendixes. In each chapter, the tables and charts are preceded by a narrative detailing inclusions and exclusions of the statistical universe for each series, the assumptions and methodology underlying the projections, the rationale for selecting the methodology and assumptions used, and caveats that should be considered in using individual projections.

Appendix tables A1 through A5 give detailed technical explanations of projection methods for their respective chapters in the main body of the publication. Appendix A also includes detailed estimation methods, classification changes, and a glossary of terms. Appendix B contains tables of population projections, and other tables of data used in making projections.

The statistical universe from which the enrollment and other data were drawn consists of (1) the public school districts which report to their respective State departments of education, (2) the nonpublic grade schools included in NCES' *Nonpublic School Directory,*[1] and (3) the institutions of higher education meeting the requirements for inclusion in NCES' *Higher Education Directory.*[2] The coverage is for the 50 States and the District of Columbia and excludes extension centers of U.S. educational institutions abroad.

This is the first edition to include higher education enrollment projections based on an age-specific enrollment rate method. Three alternative projections of enrollments in institutions of higher education are shown, based on alternative projections of age-specific enrollment rates. Some alternative projections have been included in the appendix in past editions, but alternative projections are shown throughout this edition.

This edition also includes projections of teacher supply and demand. Previous editions have included projections of teacher demand, but this edition is the first to show projections of the supply of new teacher graduates. In addition, the size of the reserve pool of teachers (former teacher graduates not employed as teachers) and the number of these former teacher graduates actively seeking teaching positions are analyzed by employment status in the narrative to chapter IV.

Table 1 and figure 1 show summaries of percent changes from 1966-67 to 1976-77 and from 1976-77 to 1986-87 for most key statistics

SUMMARY OF METHODOLOGY

Projections of enrollments in regular elementary and secondary schools are based primarily on grade-retention rates. Projections of kindergarten and 1st-grade students entering elementary school are based on projections of the 5- and 6-year-old populations from the U.S. Bureau of the Census. Projections of pupil-teacher ratios are applied to projections of enrollment to obtain projections of classroom teachers. Projections of current expenditure per pupil are applied to projections of enrollments to obtain projections of current expenditures. Projections of high school graduates are based on projections of the 17- and 18-year-old populations.

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[1] Diane B. Gertler and Linda A. Barker, U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Nonpublic School Directory, Elementary and Secondary Day Schools, 1968-69* (Washington, D.C., U.S. Government Printing Office, 1970).

[2] Arthur Podolsky and Carolyn R. Smith, U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Education Directory 1976-77, Colleges and Universities* (Washington, D.C., U.S. Government Printing Office, 1977).

Projections of enrollments in institutions of higher education, as already mentioned, are based primarily on age-specific enrollment rates and are converted to full-time-equivalent enrollment. Projections of full-time-equivalent student-staff ratios are applied to projections of full-time-equivalent enrollment to obtain projections of instructional staff. Projections of expenditures for "student education" per full-time-equivalent student are applied to projections of full-time-equivalent enrollment to obtain projections of current expenditures. Projections of bachelor's degrees, master's degrees, and doctor's degrees are based on composite populations, which are representative of the age of degree recipients by sex and by level of degree. In addition, projections of bachelor's degrees are based on actual upper-division enrollments in institutions of higher education.

Caveats

Because of the inherent nature of the statistical universes from which the basic data are obtained and the properties of the projection methodologies, which depend on the validity of many assumptions, projections of time series into the future are subject to errors from many sources. Therefore, those using projections are cautioned against placing too much confidence in the accuracy of the numerical values of the projections. To emphasize this fact, alternative projections are shown for most statistical series.

The NCES projections are descriptive in that no particular theories are presented to explain the observed trends. It should be noted that the figures for the next 10 years are referred to as projections and not as forecasts, predictions, or policy projections. Forecasts and predictions combine analytical techniques with subjective judgements about the future. Policy projections require the advocacy of policy changes.

The NCES approach is to apply mathematically the most recent trends to demographic data and to extrapolate the trends into the future. Where trends are changing, assumptions deemed most reasonable are made. There is, of course, no universal agreement concerning which assumptions are most reasonable, and, therefore, the methods and data used in making these projections are shown in detail so that anyone who wishes to make other assumptions will be able to derive his or her own projections. The demographically based projections in this publication should be considered as the base line from which other analysis may begin.

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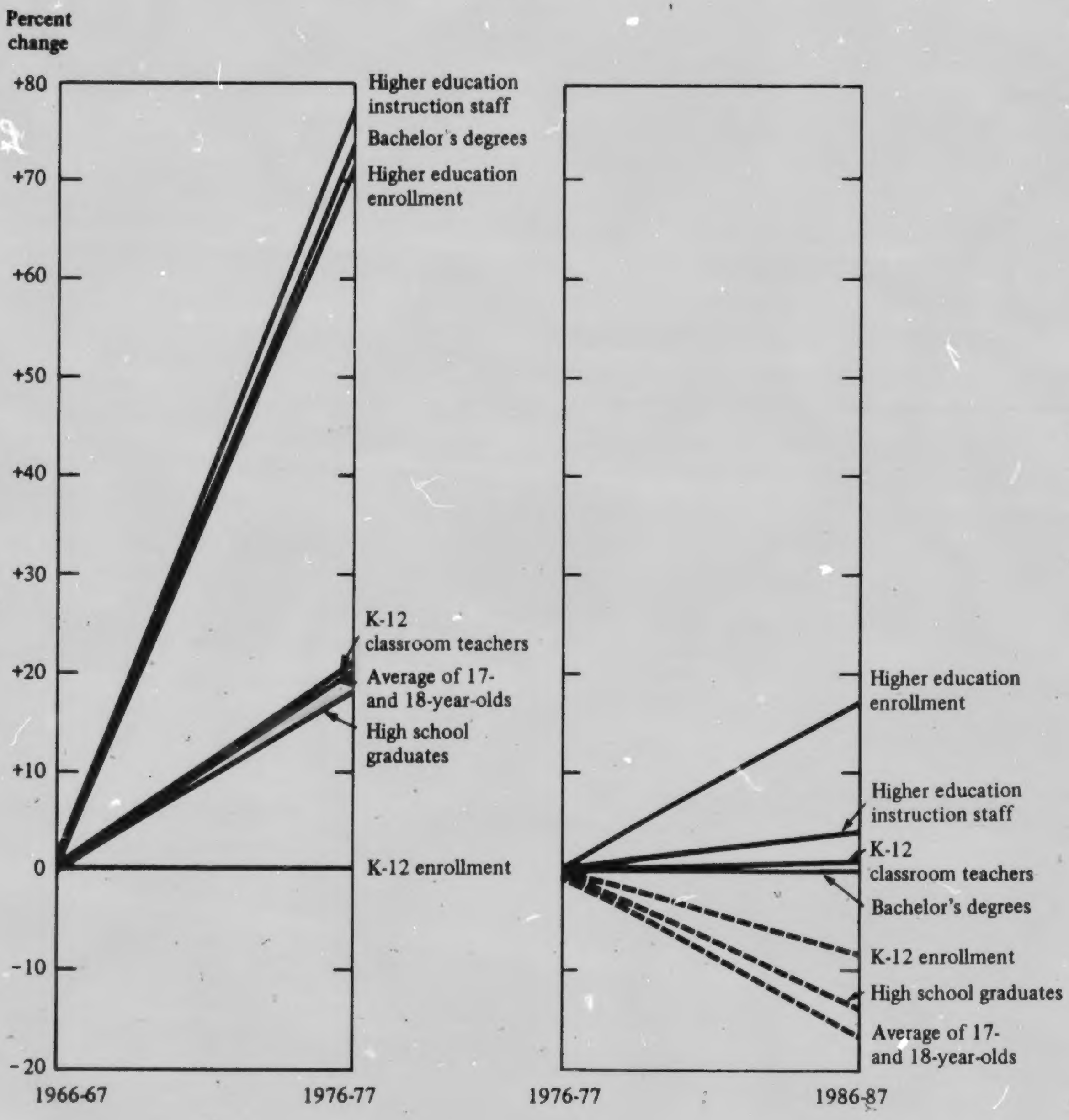
Figure 1.–Percent change in selected education statistics: United States, 1966-67 to 1976-77 and 1976-77 to 1986-87*

(Data from table 1)



*Percentage figures do not imply that the rate of increase or decrease is constant.

Table 1.–Summary of trends in education: United States, 1966-67 to 1986-87

Characteristic	Fall 1966	Fall 1976	Percent change, 1966 to 1976	Fall 1986[1] (projected)	Percent change, 1976 to 1986
	(Thousands)				
School-age population:					
5-13	36,358	32,756	–10	[2]30,322	–7
14-17	14,473	16,862	16	[2]13,832	–18
Average of 17 and 18	3,515	4,225	20	3,542	–16
Public school districts	23.5	16.3	–31	...	...
Operating	21.7	15.9	–27	...	...
Nonoperating	1.8	.3	–83	...	...
Enrollment:					
K-grade 12	49,239	49,335	0	45,244	–8
K-8	35,945	33,612	–6	32,032	–5
9-12	13,294	15,723	18	13,212	–16
Public	43,039	44,335	3	40,244	–9
K-8	31,145	30,012	–4	28,432	–5
9-12	11,894	14,323	20	11,812	–18
Nonpublic	6,200	5,000	–19	5,000	0
Higher education:					
Total	6,390	11,012	72	12,903	17
Public	4,349	8,653	99	10,653	23
Private	2,041	2,359	16	2,250	–5
4-year	5,064	7,129	41	6,924	–3
2-year	1,326	3,883	193	5,979	54
Men	3,856	5,811	51	6,634	14
Women	2,534	5,201	105	6,269	21
Full-time	4,439	6,717	51	6,654	–1
Part-time	1,951	4,295	120	6,249	45
Full-time-equivalent	5,070	8,313	64	8,975	8
Graduate	768	1,333	74	1,532	15
Instructional staff:					
Elementary and secondary					
Classroom teachers	2,012	2,440	21	2,454	1
Elementary	1,153	1,328	15	1,490	12
Secondary	859	1,112	29	964	–13
Public	1,789	2,193	23	2,180	–1
Elementary	1,006	1,170	16	1,305	12
Secondary	783	1,023	31	875	–14
Nonpublic	223	247	11	274	11
Higher education					
Instructional staff	445	793	78	823	4
Full-time-equivalent	351	584	66	599	3

See footnotes at end of table.

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Table 1.–Summary of trends in education: United States, 1966-67 to 1986-87 – Cont.

Characteristic	1966-67	1976-77	Percent change, 1966-67 to 1976-77	1986-87	Percent change, 1976-77 to 1986-87
			(Thousands)		
High school graduates[3]	2,679	3,149	18	2,740	-13
Public	2,381	2,839	19	2,430	-14
Nonpublic	298	310	4	310	0
Boys	1,332	1,571	18	1,369	-13
Girls	1,348	1,578	17	1,371	-13
Earned degrees[3]					
Bachelor's	559	980	75	979	0
Men	323	532	65	528	-1
Women	236	448	90	451	1
First-professional	32	62	94	75	21
Men	30	50	67	53	6
Women	1	12	1,100	22	83
Master's	158	322	104	439	36
Men	103	171	66	208	22
Women	55	151	175	231	53
Doctor's	21	35	67	42	20
Men	18	27	50	29	7
Women	2	8	300	14	75

Characteristic	Current unadjusted dollars		Constant 1976-77 dollars
	1966-67	1976-77	1986-87
		Billions	
Total expenditures by regular educational institutions:[4]			
All levels	$ 49.1	$ 130.6	$ 153.1
Public	38.5	107.3	127.7
Nonpublic	10.6	23.3	25.4
Elementary and secondary schools	31.6	85.1	105.1
Public	28.1	76.5	93.3
Nonpublic	3.5	8.6	11.8
Institutions of higher education	17.5	45.5	48.0
Public	10.4	30.8	34.4
Nonpublic	7.1	14.7	13.6
Current expenditure per pupil in average daily attendance in public elementary-secondary schools	569	1,640	2,285

See footnotes at end of table.

Table 1.–Summary of trends in education: United States, 1966-67 to 1986-87 – Cont.

Characteristic	Current unadjusted dollars		Constant 1976-77 dollars
	1966-67	1976-77	1986-87
		Billions	
Estimated average charges per full-time undergraduate degree-credit student:			
Tuition and required fees:			
Public	275	550	582
Nonpublic	1,233	2,564	2,727
Board:			
Public	457	736	736
Private	506	813	813
Dormitory room:			
Public	294	588	588
Private	385	681	681

[1] Intermediate alternative projections are based on assumptions and methodology shown in appendix A, tables A-1 through A-5.

[2] Population projections are series II projections from the Bureau of the Census.

[3] Projected in 1976-77.

[4] Includes current expenditures, interest, and capital outlay.

NOTE.–Data are for the 50 States and the District of Columbia. Because of rounding, details may not add to totals.

Chapter II
ENROLLMENT

Martin M. Frankel and William C. Sonnenberg

ALL LEVELS

Total fall enrollment (elementary, secondary, and higher education) increased from 51.3 million in 1963 to 60.3 million in 1976 and is expected to decrease to 58.1 million in 1986 (table 2). These totals include daytime enrollment in all regular public and nonpublic (parochial and nonsectarian) elementary and secondary schools; degree-credit enrollment in publicly and privately controlled institutions of higher education in programs leading to a bachelor's or higher degree; and non-degree-credit enrollment in programs that extend not more than 3 years beyond high school and are designed to prepare students for technical, semiprofessional, or craftsman-clerical positions.

Excluded from the enrollments in institutions of higher education are adult education courses of regular length; short courses of any kind; and correspondence, television, or radio courses, some of which are degree-credit courses. Also excluded are enrollments in "special" (mostly private business and trade) schools, estimated to be 1.1 million in 1975.[1] Excluded from the enrollments in elementary and secondary schools are those in "other" elementary and secondary schools which are defined as: (1) enrollments in public and nonpublic subcollegiate, vocational, technical, and trade schools, unless they are a part of the regular school system; (2) enrollments in evening classes in regular public schools; and (3) enrollments in elementary and secondary grades in public and nonpublic residential schools for exceptional children, Federal schools for Indians, federally operated schools on Federal installations, and subcollegiate departments of public and nonpublic institutions. In 1976, enrollment in "other" elementary and secondary schools was estimated to be 300,000.[2] The elementary and secondary school enrollments also exclude children aged 3 to 6 enrolled in independent public and nonpublic nursery schools and kindergartens (exclusively preprimary schools). Estimates of enrollments in independent nursery schools and kindergartens are shown in table 2 (estimated to be 1.9 million in 1976).

REGULAR ELEMENTARY AND SECONDARY SCHOOLS

Projections of enrollments in regular public elementary and secondary schools (tables 3 and 4) are computed by using a grade-retention method. This method depends mainly on assumptions about the entrance of 6-year-olds into the first grade and their subsequent progress through elementary and secondary school as determined by projected grade-retention rates.

The advantage of this method is that projections are based primarily on students already enrolled, especially for the beginning of the projection period. For projections 1 year into the future, 11 of the 12 grades are based on actual enrollments 1 year earlier; for projections 2 years into the future, 10 of the 12 grades are based on actual enrollments 2 years earlier, and so on. The projections not based on actual past enrollments are based on projections of the 6-year-old population. Six-year-olds entering the first grade through fall 1982 were already born when the latest population projections were made (1977); thus, their number is not dependent on assumed fertility rates. By 1986, the last year shown in the tables, only projections of enrollments in kindergarten through grade 4 depend on assumed fertility rates.

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[1] U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-20, No. 303, "School Enrollment–Social and Economic Characteristics of Students: October 1975" (Washington, D.C.; U.S. Government Printing Office, 1976).

[2] W. Vance Grant and C. George Lind, U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Digest of Education Statistics, 1977* (Washington, D.C., U.S. Government Printing Office, 1978).

This method has been used since 1966 with great success. The average discrepancy between actual enrollments and projections 1 year out has been 0.2 percent with a maximum of 0.6 percent. The average and maximum for 2 years out are 0.4 and 0.7, respectively, and for 5 years out the figures are 1.1 percent and 1.9 percent. Projections for 10 years out made in 1966 and 1967 have been too high by an average of just 3.4 percent.

Projections of enrollments in nonpublic elementary and secondary schools, because of limited available data, are based on the assumption that the number of students enrolled will remain constant through 1986.

The National Center for Education Statistics conducted nonpublic school surveys in 1976 and 1977. However, data from these surveys were not available when the projections of nonpublic enrollment in this edition were made. When projections of enrollment in nonpublic schools are made in the next edition, these 2 years of enrollment data from nonpublic schools will be available, and therefore, projections should be improved.

Projections of enrollment in regular day schools are shown in table 3 by grade group and in table 4 by organizational level.

Enrollments in regular elementary and secondary schools increased from 33.9 million in 1954 to a peak of 51.3 million in 1970 (table 3). Since then, enrollments have decreased to 49.3 million (1976) and are expected to decrease further to 44.5 million in 1983 and 1984. Starting in 1985, enrollments are expected to increase gradually. These past and projected enrollment decreases reflect the sharp decreases in the number of births since 1960–from 4.3 million in 1960[3] to 3.2 million in 1976.[4]

Grade Group

Grades K-8

Enrollment in grades K-8 of public and nonpublic schools increased from 26.7 million in 1954 to 36.8 million in 1969, an increase of more than 10 million students in 15 years (table 3). However, the sharp decreases in the number of births in the 1960's began to be reflected in K-8 enrollments in the early 1970's. By 1976, enrollments had already dropped to 33.6 million, a decrease of 3.2 million students in 7 years. One result of this decrease has been the closing of many elementary schools throughout the Nation during the past few years. Undoubtedly, some of the closed schools were built to accommodate the 10 million additional students who enrolled in elementary schools during the 1950's and 1960's.

Continuing decreases in enrollment are expected through 1983 to be followed by gradual increases. By 1983 the expected decrease of 2.4 million students will bring the enrollment level in grades K-8 down to 31.2 million, about the same level as in 1959. By 1986 the enrollment in grades K-8 should be back to over 32.0 million.

The projections of enrollments in grades K-8 discussed above are based on the assumption that the series II population projections will remain through 1986 substantially as now projected by the Bureau of the Census.

The series II population projection is based on an ultimate completed cohort fertility rate of 2.1 births per woman, which represents replacement level. Replacement-level fertility is that required for a population to replace itself indefinitely, given projected mortality rates and in the absence of net migration. The 2.1 births per woman is also compatible with the most recent birth expectation data.[5]

The high alternative K-8 enrollment projection is based on the series I population projection. The high K-8 enrollment projection shows decreases from 33.6 million in 1976 to a low of 31.4 million in 1981, followed by increasing enrollments reaching 34.9 million in 1986. This represents a projection for 1986 of 2.9 million students more than the series II projection of 32.0 million. However, the series I population projection is based on the assumption of an ultimate completed fertility rate of 2.7 births per woman. In light of the most recent birth and expected birth data, it is unlikely that the birth levels required to meet series I population projections will be approached.

A more likely alternative is the low alternative K-8 enrollment projection, which is based on the series III population projection. The low alternative projection shows the enrollment decline in elementary schools continuing to decrease from 33.6 million in 1976 to 29.9 million in 1985 before increasing to 30.0 million in 1986. Although the series I ultimate completed fertility assumption of 1.7 births per woman most closely agrees with the birth data for the past few years, the most recent birth data indicate that the level will be closer to that projected in series II, which is based on a 2.1 ultimate completed fertility rate.

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[3] U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-25, No. 632, "Population Estimates and Projections, Estimates of the Population of the United States and Components of Change: 1930 to 1975" (Washington, D.C., U.S. Government Printing Office, 1976).

[4] U.S. Department of Health, Education, and Welfare, National Center for Health Statistics, *Monthly Vital Statistics Report*, Volume 25, No. 12, "Births, Marriages, Divorces, and Deaths for 1976" (Washington, D.C., U.S. Government Printing Office, 1977).

[5] U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-20, No. 308, "Population Characteristics, Fertility of American Women: June 1976" (Washington, D.C., U.S. Government Printing Office, 1977).

Grades 9-12

Enrollment in grades 9-12 in public and nonpublic schools, which increased from 7.2 million in 1954 to 15.7 million in 1976, is expected to decrease steadily to 13.2 million in 1986 as the children born in the low birth years of the late 1960's progress through high school (table 3). There are no alternative 9-12 enrollment projections since students enrolled in grades 9-12 through 1986 were already born when these latest population projections were made.

The projections indicate that high schools in the Nation will have to face the same problems of declining enrollments in the 1980's that the elementary schools are facing in the 1970's.

Organizational Level

Elementary

Enrollment in schools organized as elementary schools (see the glossary in appendix A for definitions of elementary and secondary schools) increased from 24.9 million in 1954 to a high of 32.0 million in 1967 (table 4). Enrollment in elementary schools dropped to 29.0 million in 1976 and is expected to continue to decrease to 27.2 million in 1983 and then begin to increase, reaching 28.5 million in 1986.

The reported enrollment in elementary schools is smaller than that in kindergarten through grade 8 (table 3) because it excludes enrollment in grades 7 and 8 in junior high schools.

Secondary

Enrollment in schools organized as secondary schools increased from 9.0 million in 1954 to 20.6 million in 1975 and is expected to decrease to 16.7 million in 1986 (table 4). The enrollment in secondary schools is larger than that in grades 9 through 12 (table 3) because it includes all of the grades 9-12 enrollment as well as the enrollment in grades 7 and 8 in junior high schools. It may be even higher than it is reported to be in table 4 because some State departments of education report only by grade even though some of their schools are organized on an elementary and secondary basis. In recent years, an increasing number of States have reported in this manner, and, therefore, the elementary-secondary breakdown should be used with some reservations.

Control

Public

The public school enrollment by grade was projected for each grade separately and then summed to obtain the projections for the group (tables 3 and 4). The projections by grade were derived (1) by applying projected age-specific enrollment rates to 6-year-olds and (2) by applying projected grade-retention rates to children in grades 2 through 11. For an explanation of the fertility rates used by the Bureau of the Census in making series I, II, and III population projections, see appendix B, table B-1 footnotes.

The enrollment in regular public day schools by organizational level was derived by assuming that the percentages of the 7th- and 8th-grade enrollment organized as secondary school enrollment will remain constant at the average of the 1974-1976 levels.

For a more detailed description of the assumptions and methods used in projecting public school enrollment, see the footnotes to tables 3 and 4 and appendix A, table A-1.

Nonpublic

An estimated 5.0 million students, or roughly 10 percent of regular day school enrollment, are now enrolled in nonpublic schools.

From 1965 to 1976, enrollments in Catholic elementary schools have decreased by 2 million students. However, over the same period, enrollments in nonpublic, non-Catholic elementary schools have been increasing, but not enough to offset the large decreases in Catholic elementary schools.[6] The net result has been a decrease of 1.3 million students in all nonpublic elementary schools since 1965.

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[6] National Catholic Education Association, *A Report on U.S. Catholic Schools*, 1970-71 through 1976-77, Washington, D.C.

The projections of enrollments in nonpublic elementary schools show a constant enrollment at the estimated 1976 level of 3.6 million through 1986. The projections are based on the assumptions that enrollment in Catholic elementary schools will not decrease as rapidly as in the past 12 years and that enrollments in nonpublic, non-Catholic schools will increase enough to offset the decreases in Catholic elementary schools.

Enrollments in nonpublic secondary schools have fluctuated between 1.3 and 1.4 million for the past 10 years and are expected to remain constant at the 1.4 million level through 1986.

INSTITUTIONS OF HIGHER EDUCATION

Projections of enrollments in institutions of higher education have not been nearly as accurate as projections of enrollments in elementary and secondary schools.

Unlike elementary and secondary schools, where attendance is mandatory for most students through age 16, enrollment in institutions of higher education is subject to much more variability. Higher education enrollments are affected by economic conditions, political and administrative decisions, the status value of a degree, the intrinsic value of higher education, the cost of an education, etc. Some of these factors are impossible to quantify; most defy anticipation.

In addition, over the past 10 or 12 years, the higher education enrollment universe has undergone some major changes. The students' calls for relevancy of curriculums during the late 1960's, together with the growth of community colleges and the anticipation by the higher education community of a significant drop in the 1980's of the traditional college-age population, led to a transition from a higher education universe toward a postsecondary universe. The distinction between a degree-credit and non-degree-credit student has become so unclear that, since fall 1976, NCES has no longer attempted to collect separate data for these two categories.

During the 1970's, major increases have occurred in the proportion of part-time students enrolled. Undoubtedly, many economic and social factors have had an impact upon the attendance status of students. But, perhaps the largest single factor that has caused increases in the percentage of part-time students enrolled is the increased propensity of older students (25-years-old and over) to attend institutions of higher education.

In order to take into account changes in the age-distribution of students, a projection method based on age-specific enrollment rates was used for the first time in this edition.

Enrollment data by individual years of age for 1967 through 1976, obtained from the Bureau of the Census,[7] were adjusted to make them comparable with enrollment data for corresponding years from the annual NCES publication *Opening Fall Enrollment*.

Age-specific enrollment rates, by sex, were found for each year, 1967 through 1976. The age-specific enrollment rates were projected through 1986 and applied to corresponding population projections (appendix B, table B-2) to obtain enrollment projections (for details see appendix A, table A-1).

The low alternative projection is based on the assumption that each age-specific enrollment rate will remain constant at the average of its 1975 and 1976 rates. The high alternative projection is based on the assumption that each age-specific enrollment rate will follow its 1967 to 1976 trend through 1986. The intermediate alternative projection is based on the assumption that each age-specific enrollment rate will equal the average of the rates for the high and low alternative projections.

The NCES enrollment data, which are not available by age of student, are based on reports from each of the 3,073 individual institutions included in the *Higher Education Directory*.[8] The Census enrollment data are based on reports from a sample of about 50,000 households. Although the enrollment counts themselves from the two surveys are fairly consistent, characteristics of the students and their institutions may not be. Undoubtedly this is largely due to reliance on different types of respondents—institutions for the NCES surveys and a household member (not the student in a majority of cases) for the Census survey. Therefore, the breakdown of enrollment projections into type and control of institution and attendance status of student is based on past trends in the NCES data.

Data by age group and attendance status are available from the Census enrollment survey. Although the Census figures show a significantly higher proportion of full-time students than do NCES enrollment figures, the data indicate that the proportion of full-time students is decreasing for nearly all age groups and that the older the age group the lower the proportion of full-time students. For example, 92 percent of the 18- and 19-year-old students were attending full-time in 1975 while the comparable figure for those 35 years old and over was 23 percent.

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[7] Published and unpublished data from U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-20, "Population Characteristics, School Enrollment—Social and Economic Characteristics of Students," 1967 through 1976 (Washington, D.C., U.S. Government Printing Office, 1968-1977).

[8] Arthur Podolsky and Carolyn R. Smith, U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Education Directory, 1976-77, Colleges and Universities* (Washington, D.C., U.S. Government Printing Office, 1977).

Primarily due to population projections for the years 1977 through 1986 (see appendix B, table B-2), which show decreases from ages 16-22 and increases for older ages, all three alternative enrollment projections in table 5 are based on assumptions of increased proportions of older students. Therefore all three alternative enrollment projections are also based on assumptions of increased proportions of part-time students.

The low alternative projection is based on an assumption of moderate increases in the proportion of part-time enrollment. The intermediate alternative projection is based on an assumption of larger increases in the proportion of part-time enrollment than in the low alternative projection. And the high alternative projection is based on an assumption of larger increases in the proportion of part-time enrollment than in the intermediate alternative projection (for details, see appendix A, table A-1).

Fall enrollment in institutions of higher education increased from 4.8 million in 1963 to 11.2 million in 1975. The increase from 1974 to 1975 was nearly 1.0 million students, the single largest enrollment increase in the history of higher education. Therefore, the 1976 enrollment data, which showed a decrease to 11.0 million, came as quite a surprise. The 1976 enrollment decline is the first in over 20 years–since the early 1950's when large numbers of World War II veterans completed their education.

At the present time, therefore, the outlook for higher education enrollment is unclear.

High Alternative

It is possible that the 1976 decrease in enrollment was just an aberration due to adverse economic conditions, budgetary constraints imposed on institutions of higher education, and the large decrease in 1976 of the number of students who were eligible to receive veterans' benefits. If 1976 is just an aberration, and if the increasing trends in enrollment rates experienced from 1966 to 1976 continue through 1986, then enrollment in 1986 might be as high as 14.8 million. At this level more than half of the students would be women and more than half of the students would be part-time.

However, for an enrollment level of nearly 15 million students to occur in 1986, it seems likely that the job outlook for college graduates would have to improve. In addition, enrollment and expenditure ceilings that have been imposed on many public institutions would have to be removed and the availability to individuals of grants and loans to ease the financial hardships of attending college would have to be improved.

Intermediate Alternative

Although future decreases in the number of students eligible for veterans benefits are not likely to be nearly as large as in 1976, it is unlikely that all of the other favorable economic and budgetary conditions will exist simultaneously over the next 10 years. Therefore, lower projected enrollment gains seem more reasonable at the present time.

If enrollment rates increase only half as fast as they did from 1966 to 1976, then an enrollment level of 12.9 million will be reached in 1986. At this level, men will still outnumber women, but the percentage of women enrolled will increase slightly from 47 percent in 1976 to nearly 49 percent in 1986. An enrollment of 12.9 million in 1986 will probably require some improvement in budgetary and economic conditions over the next 10 years.

Although an enrollment projection of 12.9 million in 1986 represents an increase of nearly 2 million students, the number of full-time students in 1986 will be slightly less than in 1976. The percentage of part-time students will have increased to 48.6 percent in 1986, an increase of almost 10 percentage points over the 1976 level of 39.0 percent.

Low Alternative

If enrollment rates remain constant at the average of their 1975 and 1976 levels, then enrollments will only increase slightly through 1981 (11.6 million) and then decrease back to 11.0 million in 1986. At this level, however, the number of full-time students in 1986 will be 6.1 million, almost 600,000 fewer than in 1976. An enrollment level as low as 11.0 million in 1986 probably will not occur unless economic and budgetary conditions show little or no improvement over 1976.

2-Year and 4-Year Colleges

Prior to 1972, enrollments for some 2-year campuses that were parts of multicampus institutions and enrollments for 2-year institutions that were parts of systems of institutions were included in totals for 4-year institutions. Therefore, the figures in tables 6 and 7 for years prior to 1972 and for years 1972 through 1986 are not strictly comparable.

The projections in tables 6 and 7 (all three alternatives) are based on the assumptions that the number of older students will increase over the next 10 years and that large proportions of these older students will enroll part-time. Since 70 percent of the part-time enrollment increase from 1972 to 1976 has occurred in 2-year institutions, the projections in tables 6 and 7 show most of the enrollment increases occurring in 2-year institutions. This seems reasonable at the present time, since many 2-year institutions are community colleges that have traditionally served the needs of older students in their localities. However, it is quite possible that 4-year institutions will become more oriented toward older students during the next 10 years. If this does come about, the enrollment distribution between 4-year and 2-year institutions shown in tables 6 and 7 could be significantly changed.

Full-Time-Equivalent Enrollment

Full-time-equivalent enrollment (all full-time students plus part-time students converted to their equivalent number of full-time students, as determined by each institution) increased from 3.7 million in 1963 to 8.5 million in 1975 before decreasing to 8.3 million in 1976, the first decrease since the early 1950's (table 8). The alternative projections of full-time-equivalent enrollment are consistent with the alternative projections of total enrollment shown in table 5.

The low alternative projection shows full-time-equivalent enrollment increasing slightly to 8.5 million in 1980 and then decreasing gradually, reaching 7.9 million in 1986, 376,000 fewer full-time-equivalent students than in 1976. This 4.5 percent decrease in full-time-equivalent enrollment reflects the projection of an increasing proportion of part-time students and no change in total enrollment (low alternative projection, table 5) from 1976 to 1986.

The intermediate alternative projection of full-time-equivalent enrollment shows an increase from 8.3 million in 1976 to 9.0 million in 1986. This represents an increase of 8.4 percent, compared to 17.2 percent increase in total enrollments shown in the intermediate alternative projection in table 5. The divergence of these two intermediate alternative projections is due to projected increasing proportions of part-time students, as in the case for the low alternative projections. However, the proportions of part-time students in the intermediate alternative projections are assumed to be increasing at a faster rate than for the low alternative projections.

The high alternative projection of full-time-equivalent enrollment shows an increase of 19.3 percent, from 8.3 million in 1976 to 9.9 million in 1986. The comparable alternative projection in table 5 shows an increase of 34.1 percent. The large divergence of the two high alternative projections is due to the assumption that the percentage distribution of enrollment by type and control of institution and by attendance status of student will follow the 1972 to 1976 trends through 1986. This assumption results in larger proportions of part-time students than in the intermediate and low alternative projections.

Graduate Enrollment

Graduate enrollment almost tripled from 1963 to 1976, increasing from 0.5 million in 1963 to 1.3 million in 1976 (table 9). Over the next 10 years the growth of graduate enrollment is not expected to be nearly as large, ranging from a low alternative projection of virtually no growth to a high alternative projection of 1.7 million by 1986 (an increase of 27.8 percent). These alternative projections of graduate enrollment are consistent with the alternative projections of total enrollment in 4-year institutions in table 6.

In 1963, 31 percent of the graduate students were women. By 1976 the percentage had jumped to 46 percent. If there is little growth in the number of graduate students over the next 10 years, the percentage of women is expected to increase slightly to 47 percent, as is indicated by the low alternative projection. Should the enrollment of graduates increase to the levels of the intermediate projection, then nearly half the students (over 49 percent) are expected to be women. Only if large increases occur, such as those shown in the high alternative projection, is it expected that there will be more women graduate students (51 percent) than men in 1986.

Figure 2.–Enrollment in grades K-12 of regular day schools, with alternative projections: United States, fall 1956 to 1986

(Data from table 3)

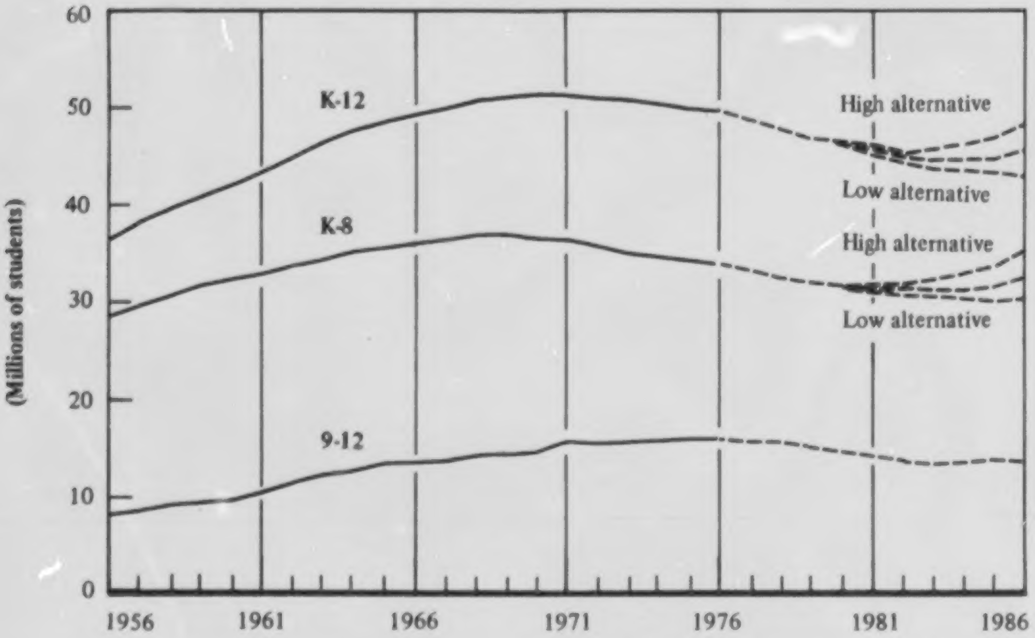
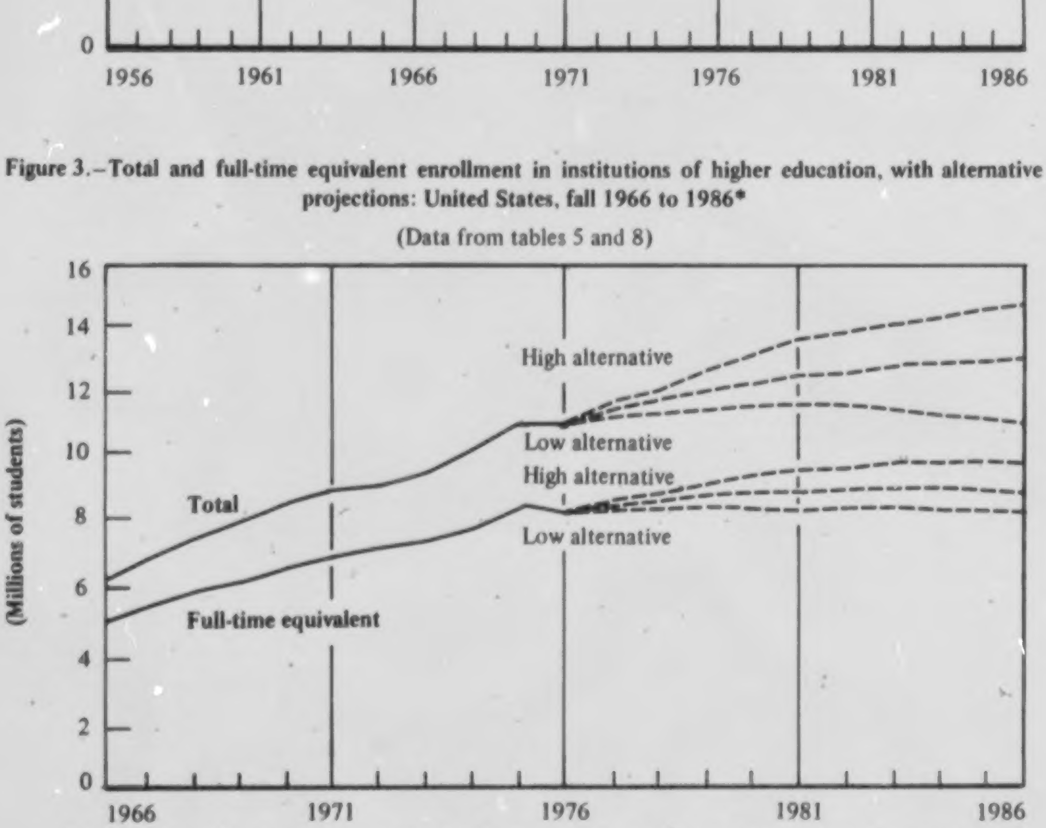


Figure 3.–Total and full-time equivalent enrollment in institutions of higher education, with alternative projections: United States, fall 1966 to 1986*

(Data from tables 5 and 8)



*Total enrollment has increased faster than full-time equivalent enrollment and the divergence between them is expected to continue increasing over the next 10 years.

Table 2.–Summary of enrollment in educational institutions, with alternative projections, by level and control of institution: United States, fall 1963 to 1986

[In thousands]

Year (fall)	Total enrollment (excluding independent nursery schools and kindergartens)			Institutions of higher education		Regular elementary and secondary day schools[1]				Independent nursery schools and kindergartens[2] (estimated)	
						Grades K-8		Grades 9-12			
	Total	Public	Non-public	Public	Non-public	Public	Non-public	Public	Non-public	Public	Non-public
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1963	51,253	43,253	8,000	3,066	1,700	29,304	5,000	10,883	1,300	—	—
1964	52,996	44,884	8,112	3,468	1,812	30,025	5,000	11,391	1,300	236	644
1965	54,394	46,143	8,251	3,970	1,951	30,563	4,900	11,610	1,400	305	799
1966	55,629	47,388	8,241	4,349	2,041	31,145	4,800	11,894	1,400	374	858
1967	56,803	48,707	8,096	4,816	2,096	31,641	4,600	12,250	1,400	467	911
1968	58,257	50,375	7,882	5,431	2,082	32,226	4,400	12,718	1,400	437	927
1969	59,124	51,516	7,608	5,897	2,108	32,597	4,200	13,022	1,300	326	1,028
1970	59,890	52,337	7,553	6,428	2,153	32,577	4,100	13,332	1,300	421	1,113
1971	60,129	52,885	7,244	6,804	2,144	32,265	3,800	13,816	1,300	524	1,138
1972	59,958	52,814	7,144	7,070	2,144	31,831	3,700	13,913	1,300	549	1,196
1973	59,933	52,850	7,083	7,420	2,183	31,353	3,600	14,077	1,300	343	1,232
1974	60,276	53,041	7,235	7,988	2,235	30,921	3,600	14,132	1,400	364	1,525
1975	60,976	53,626	7,350	8,835	2,350	30,487	3,600	14,304	1,400	489	1,531
1976	60,347	52,988	7,359	8,653	2,859	30,012	3,600	14,323	1,400	541	1,408
					Intermediate alternative projection[3]						
1977	60,185	52,777	7,408	9,090	2,408	29,453	3,600	14,234	1,400	519	1,416
1978	59,622	52,208	7,414	9,368	2,414	28,765	3,600	14,075	1,400	512	1,441
1979	59,009	51,583	7,426	9,653	2,426	28,219	3,600	13,711	1,400	520	1,490
1980	58,470	51,035	7,435	9,941	2,435	27,891	3,600	13,203	1,400	538	1,547
1981	57,956	50,536	7,420	10,149	2,420	27,711	3,600	12,676	1,400	552	1,629
1982	57,531	50,120	7,411	10,311	2,411	27,643	3,600	12,166	1,400	578	1,740
1983	57,344	49,965	7,379	10,437	2,379	27,629	3,600	11,899	1,400	612	1,871
1984	57,406	50,062	7,344	10,516	2,344	27,652	3,600	11,894	1,400	651	2,014
1985	57,675	50,372	7,303	10,578	2,303	27,831	3,600	11,963	1,400	692	2,148
1986	58,147	50,897	7,250	10,653	2,250	28,432	3,600	11,812	1,400	729	2,263
					Low alternative projection[3]						
1977	59,947	52,609	7,365	8,922	2,365	29,453	3,600	14,234	1,400	519	1,416
1978	59,248	51,899	7,349	9,059	2,349	28,765	3,600	14,075	1,400	512	1,441
1979	58,452	51,117	7,335	9,189	2,335	28,217	3,600	13,711	1,400	520	1,484
1980	57,717	50,385	7,332	9,309	2,322	27,873	3,600	13,203	1,400	534	1,505
1981	56,947	49,653	7,294	9,352	2,294	27,625	3,600	12,676	1,400	537	1,512
1982	56,137	48,883	7,254	9,348	2,254	27,369	3,600	12,166	1,400	536	1,532
1983	55,422	48,212	7,210	9,300	2,210	27,013	3,600	11,899	1,400	541	1,593
1984	54,844	47,685	7,159	9,208	2,159	26,583	3,600	11,894	1,400	560	1,707
1985	54,435	47,328	7,107	9,097	2,107	26,268	3,600	11,963	1,400	594	1,836
1986	54,233	47,176	7,057	8,983	2,057	26,381	3,600	11,812	1,400	631	1,944

See footnotes at end of table.

Table 2.–Summary of enrollment in educational institutions, with alternative projections, by level and control of institution: United States, fall 1963 to 1986 – Cont.

[In thousands]

Year (fall)	Total enrollment (excluding independent nursery schools and kindergartens)			Institutions of higher education		Regular elementary and secondary day schools[1]				Independent nursery schools and kindergartens[2] (estimated)	
						Grades K-8		Grades 9-12			
	Total	Public	Nonpublic	Public	Nonpublic	Public	Nonpublic	Public	Nonpublic	Public	Nonpublic
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
					High alternative projection[3]						
1977	60,383	52,942	7,441	9,255	2,441	29,453	3,600	14,234	1,400	519	1,416
1978	59,996	52,519	7,477	9,679	2,477	28,765	3,600	14,075	1,400	512	1,441
1979	59,569	52,056	7,513	10,122	2,513	28,223	3,600	13,711	1,400	521	1,501
1980	59,248	51,701	7,547	10,575	2,547	27,923	3,600	13,203	1,400	544	1,615
1981	59,034	51,479	7,555	10,955	2,555	27,847	3,600	12,676	1,400	577	1,802
1982	59,064	51,514	7,550	11,291	2,550	28,057	3,600	12,166	1,400	642	2,016
1983	59,534	52,003	7,531	11,591	2,531	28,513	3,600	11,899	1,400	706	2,394
1984	60,365	52,863	7,502	11,849	2,502	29,120	3,600	11,894	1,400	766	2,422
1985	61,472	54,010	7,462	12,096	2,462	29,951	3,600	11,963	1,400	822	2,603
1986	62,831	55,439	7,392	12,371	2,392	31,256	3,600	11,812	1,400	873	2,769

[1] Does not include independent nursery schools and kindergartens, residential schools for exceptional children, subcollegiate departments of institutions of higher education, Federal schools for Indians, and federally operated schools on Federal installations.

[2] Estimates of independent nursery school and kindergarten enrollments are based on the differences between all nursery school and kindergarten enrollments of children aged 3, 4, 5, and 6 years, as reported by the Bureau of the Census, and nursery school and kindergarten enrollments reported by the regular public and private schools.

The projections of enrollments in independent nursery schools and kindergartens are based on the following assumptions: (a) Enrollments in all nursery schools and kindergartens of children aged 3, 4, 5, and 6 years will follow the 1964-76 trends of enrollment in these schools at each age level as a percentage of the total population of that age. (b) Enrollments in independent nursery schools and kindergartens of children aged 3, 4, 5, and 6 years will be the difference between enrollment in all nursery schools and kindergartens, as reported by the Bureau of the Census and enrollment in nursery schools and kindergartens reported by regular public and private schools.

For further methodological details, see appendix A, table A-1.

[3] For assumptions on which projections of elementary, secondary, and higher education enrollments are based and for projection methods used, see footnotes to tables 3 and 5, and methodology in appendix A, table A-1.

NOTE.–Data are for 50 States and the District of Columbia for all years. Because of rounding, details may not add to totals.

SOURCES: Nursery school and kindergarten enrollment data are based on (1) U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, publications: (a) *Nursery-Kindergarten Enrollment of Children under Six*, October 1964 through 1965. (b) *Preprimary Enrollment of Children under Six*, October 1967 and 1968, (c) *Preprimary Enrollment*, October 1969 through 1972, 1974 through 1976; and (2) U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, "Population Characteristics, Nursery School and Kindergarten Enrollment: October 1973," Series P-20, No. 268, August 1974.

Table 3.—Enrollment in grades K-8 and 9-12 of regular day schools, with alternative projections, by control of institution: United States, fall 1954 to 1986[1]

[In thousands]

Year (fall)	Total public and nonpublic			Public			Nonpublic (estimated)[2]		
	K-12	K-8	9-12	K-12	K-8	9-12	K-12	K-8	9-12[3]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1954	33,949	26,706	7,243	29,549	23,106	6,443	4,400	3,600	800
1955	35,280	27,717	7,563	30,680	23,917	6,763	4,600	3,800	800
1956	36,619	28,541	8,078	31,719	24,541	7,178	4,900	4,000	900
1957	38,151	29,530	8,621	32,951	25,230	7,721	5,200	4,300	900
1958	39,581	30,504	9,077	34,081	26,004	8,077	5,500	4,500	1,000
1959	40,782	31,511	9,271	35,182	26,911	8,271	5,600	4,600	1,000
1960	42,181	32,492	9,689	36,281	27,692	8,589	5,900	4,800	[4]1,100
1961	43,364	32,895	10,469	37,464	28,095	9,369	5,900	[4]4,800	[4]1,100
1962	44,849	33,537	11,312	38,749	28,637	10,112	6,100	4,900	1,200
1963	46,487	34,304	12,183	40,187	29,304	10,883	6,300	5,000	[4]1,300
1964	47,716	35,025	12,691	41,416	30,025	11,391	6,300	5,000	[4]1,300
1965	48,473	35,463	13,010	42,173	30,563	11,610	6,300	[4]4,900	[4]1,400
1966	49,239	35,945	13,294	43,039	31,145	11,894	6,200	4,800	1,400
1967	49,891	36,241	13,650	43,891	31,641	12,250	6,000	4,600	1,400
1968	50,744	36,626	14,118	44,944	32,226	12,718	5,800	[4]4,400	[4]1,400
1969	51,119	36,797	14,322	45,619	32,597	13,022	5,500	4,200	1,300
1970	51,309	36,677	14,632	45,909	32,577	13,332	5,400	[5]4,100	[5]1,300
1971	51,181	36,065	15,116	46,081	32,265	13,816	5,100	[6]3,800	1,300
1972	50,744	35,531	15,213	45,744	31,831	13,913	5,000	[6]3,700	1,300
1973	50,329	34,953	15,377	45,429	31,353	14,077	4,900	[6]3,600	1,300
1974	50,053	34,521	15,532	45,053	30,921	14,132	5,000	[6]3,600	1,400
1975	49,791	34,087	15,704	44,791	[6]30,487	[6]14,304	5,000	[6]3,600	1,400
1976	49,335	33,612	15,723	44,335	30,012	14,323	5,000	3,600	1,400
				Intermediate alternative projection[7]					
1977	48,687	33,053	15,634	43,687	29,453	14,234	5,000	3,600	1,400
1978	47,840	32,365	15,475	42,840	28,765	14,075	5,000	3,600	1,400
1979	46,930	31,819	15,111	41,930	28,219	13,711	5,000	3,600	1,400
1980	46,094	31,491	14,603	41,094	27,891	13,203	5,000	3,600	1,400
1981	45,387	31,311	14,076	40,387	27,711	12,676	5,000	3,600	1,400
1982	44,809	31,243	13,566	39,809	27,643	12,166	5,000	3,600	1,400
1983	44,528	31,229	13,299	39,528	27,629	11,899	5,000	3,600	1,400
1984	44,546	31,252	13,294	39,546	27,652	11,894	5,000	3,600	1,400
1985	44,794	31,431	13,363	39,794	27,831	11,963	5,000	3,600	1,400
1986	45,244	32,032	13,212	40,244	28,432	11,812	5,000	3,600	1,400
				Low alternative projection[8]					
1977	48,687	33,053	15,634	43,687	29,453	14,234	5,000	3,600	1,400
1978	47,840	32,365	15,475	42,840	28,765	14,075	5,000	3,600	1,400
1979	46,928	31,817	15,111	41,928	28,217	13,711	5,000	3,600	1,400
1980	46,076	31,473	14,603	41,076	27,873	13,203	5,000	3,600	1,400
1981	45,301	31,225	14,076	40,301	27,625	12,676	5,000	3,600	1,400
1982	44,535	30,969	13,566	39,535	27,369	12,166	5,000	3,600	1,400
1983	43,912	30,613	13,299	38,912	27,013	11,899	5,000	3,600	1,400
1984	43,477	30,183	13,294	38,477	26,583	11,894	5,000	3,600	1,400
1985	43,231	29,868	13,363	38,231	26,268	11,963	5,000	3,600	1,400
1986	43,193	29,981	13,212	38,193	26,381	11,812	5,000	3,600	1,400

See footnotes at end of table

Table 3.–Enrollment in grades K-8 and 9-12 of regular day schools, with alternative projections, by control of institution: United States, fall 1954 to 1986[1] – Cont.

[In thousands]

Year (fall)	Total public and nonpublic			Public			Nonpublic (estimated)[2]		
	K-12	K-8	9-12	K-12	K-8	9-12	K-12	K-8	9-12[3]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
					High alternative projection[9]				
1977	48,687	33,053	15,634	43,687	29,453	14,234	5,000	3,600	1,400
1978	47,840	32,365	15,475	42,840	28,765	14,075	5,000	3,600	1,400
1979	46,934	31,823	15,111	41,934	28,223	13,711	5,000	3,600	1,400
1980	46,126	31,523	14,603	41,126	27,923	13,203	5,000	3,600	1,400
1981	45,523	31,447	14,076	40,523	27,847	12,676	5,000	3,600	1,400
1982	45,223	31,657	13,566	40,223	28,057	12,166	5,000	3,600	1,400
1983	45,412	32,113	13,299	40,412	28,513	11,899	5,000	3,600	1,400
1984	46,014	32,720	13,294	41,014	29,120	11,894	5,000	3,600	1,400
1985	46,914	33,551	13,363	41,914	29,951	11,963	5,000	3,600	1,400
1986	48,068	34,856	13,212	43,068	31,256	11,812	5,000	3,600	1,400

NOTE.–Data are for 50 States and the District of Columbia for all years. Because of rounding, details may not add to totals.

SOURCES: Enrollment data and estimates based on (1) U.S. Department of Health, Education, and Welfare, National Center for Education Statistics publications: (a) *Statistics of Public Elementary and Secondary Day Schools*, fall 1964 through 1976, (b) *Enrollment, Teachers, and Schoolhousing*, fall 1956 through 1963, (c) *Statistics of Nonpublic Elementary and Secondary Schools, 1970-71*, (d) *Statistics of Public and Nonpublic Elementary and Secondary Day Schools, 1965-66*, (e) *Statistics of Nonpublic Elementary and Secondary Schools, 1965-66*, (f) *Nonpublic School Enrollment in Grades 9-12, Fall 1964 and Graduates, 1963-64*, (g) *Statistics of Nonpublic Elementary Schools, 1961-62*, (h) *Statistics of Nonpublic Secondary Schools, 1960-61*, and (2) National Catholic Education Association publications: (a) *A Report on U.S. Catholic Schools, 1970-71*, and (b) *U.S. Catholic Schools*, 1971-72 through 1976-77.

The population projections, as of October 1, of 6-years-olds on which the enrollment projections in grade 1 are based, are consistent with series I, II, and III population projections in U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-25, No. 704, July 1977. The series I, II, and III population projections, together with definitions of each series, are shown in Appendix B, table B-1.

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[1] Does not include independent nursery schools and kindergartens, residential schools for exceptional children, subcollegiate departments of institutions of higher education, Federal schools for Indians, federally operated schools on Federal installations, and other schools not in the regular school system.

[2] Estimated unless otherwise noted. Estimates for 1971 through 1976 revised based on information from Curriculum Information Center in Denver, Colorado, and Market Data Retrieval, New York, N.Y.

[3] Includes some pupils in grades 7 and 8 of nonpublic secondary schools from 1964 through 1968.

[4] Reported data from Office of Education surveys.

[5] Estimates are based on reported data from the Office of Education and the National Catholic Education Association.

[6] Revised.

[7] The intermediate projection of fall enrollment in regular day schools based on the series II population projection has the following underlying assumptions: (a) Enrollment in regular public nursery schools and kindergartens will remain constant with respect to total public nursery schools and kindergartens at the 1976 level. (b) The enrollment rate of the 6-year-old population in public school grade 1 will remain constant at the 1976 level. (c) The retention rates of all other public school grades will remain constant at the average of the rates for the past 5 years. (d) Enrollment in grades K-8 and 9-12 in regular nonpublic day schools will remain constant at the 1976 levels through 1986.

[8] The projected low alternative fall enrollment in regular day schools based on the series III population projections has the same assumptions as outlined for the intermediate projection in footnote 7.

[9] The projected high alternative fall enrollment in regular day schools based on the series I population projection has the same assumptions as outlined for the intermediate projection in footnote 7.

Table 4.–Enrollment in regular elementary and secondary day schools, with alternative projections, by control and organizational level of institution: United States, fall 1954 to 1986[1]

[In thousands]

Year (fall)	Total public and nonpublic			Public			Nonpublic (estimated)[2]		
	K-12	Elementary	Secondary	K-12	Elementary	Secondary	K-12	Elementary	Secondary
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1954	33,949	24,922	9,027	29,549	21,322	8,227	4,400	3,600	800
1955	35,280	25,959	9,321	30,680	22,159	8,521	4,600	3,800	800
1956	36,619	26,217	10,402	31,719	22,217	9,502	4,900	4,000	900
1957	38,151	27,160	10,991	32,951	22,860	10,091	5,200	4,300	900
1958	39,581	27,915	11,666	34,081	23,415	10,666	5,500	4,500	1,000
1959	40,782	28,506	12,276	35,182	23,906	11,276	5,600	4,600	1,000
1960	42,181	29,150	13,031	36,281	24,350	11,931	5,900	4,800	[3]1,100
1961	43,364	29,403	13,961	37,464	24,603	12,861	5,900	[3]4,800	[3]1,100
1962	44,849	30,164	14,685	38,749	25,264	13,485	6,100	4,900	1,200
1963	46,487	30,775	15,712	40,187	25,775	14,412	6,300	5,000	[3]1,300
1964	47,716	31,221	16,495	41,416	26,221	15,195	6,300	5,000	[3]1,300
1965	48,473	31,570	16,904	42,173	26,670	15,504	6,300	[3]4,900	[3]1,400
1966	49,239	31,905	17,334	43,039	27,105	15,934	6,200	4,800	1,400
1967	49,891	31,972	17,919	43,891	27,372	16,519	6,000	4,600	1,400
1968	50,744	31,763	18,981	44,944	27,363	17,581	5,800	[3]4,400	[3]1,400
1969	51,119	31,655	19,463	45,619	27,455	18,163	5,500	4,200	1,300
1970	51,309	31,601	19,708	45,909	27,501	18,408	5,400	[4]4,100	[4]1,300
1971	51,181	31,488	19,693	46,081	27,688	18,393	5,100	[5]3,800	1,300
1972	50,744	31,023	19,721	45,744	27,323	18,421	5,000	[5]3,700	1,300
1973	50,329	30,035	20,295	45,429	26,435	18,995	4,900	[5]3,600	1,300
1974	50,053	29,982	20,071	45,053	26,382	18,671	5,000	[5]3,600	1,400
1975	49,791	29,240	20,551	44,791	[5]25,640	[5]19,151	5,000	[5]3,600	1,400
1976	49,335	29,030	20,305	44,335	25,430	18,905	5,000	3,600	1,400
				Intermediate alternative projection[6]					
1977	48,687	28,623	20,064	43,687	25,023	18,664	5,000	3,600	1,400
1978	47,840	28,175	19,665	42,840	24,575	18,265	5,000	3,600	1,400
1979	46,930	27,818	19,112	41,930	24,218	17,712	5,000	3,600	1,400
1980	46,094	27,602	18,492	41,094	24,002	17,092	5,000	3,600	1,400
1981	45,387	27,428	17,959	40,387	23,828	16,559	5,000	3,600	1,400
1982	44,809	27,271	17,538	39,809	23,671	16,138	5,000	3,600	1,400
1983	44,528	27,211	17,317	39,528	23,611	15,917	5,000	3,600	1,400
1984	44,546	27,402	17,144	39,546	23,802	15,744	5,000	3,600	1,400
1985	44,794	27,827	16,967	39,794	24,227	15,567	5,000	3,600	1,400
1986	45,244	28,532	16,712	40,244	24,932	15,312	5,000	3,600	1,400
				Low alternative projection[6]					
1977	48,687	28,623	20,064	43,687	25,023	18,664	5,000	3,600	1,400
1978	47,840	28,175	19,665	42,840	24,575	18,265	5,000	3,600	1,400
1979	46,928	27,816	19,112	41,928	24,216	17,712	5,000	3,600	1,400
1980	46,076	27,584	18,492	41,076	23,984	17,092	5,000	3,600	1,400
1981	45,301	27,342	17,959	40,301	23,742	16,559	5,000	3,600	1,400
1982	44,535	26,997	17,538	39,535	23,397	16,138	5,000	3,600	1,400
1983	43,912	26,595	17,317	38,912	22,995	15,917	5,000	3,600	1,400
1984	43,477	26,333	17,144	38,477	22,733	15,744	5,000	3,600	1,400
1985	43,231	26,264	16,967	38,231	22,664	15,567	5,000	3,600	1,400
1986	43,193	26,481	16,712	38,193	22,881	15,312	5,000	3,600	1,400

See footnotes at end of table.

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Table 4.–Enrollment in regular elementary and secondary day schools, with alternative projections, by control and organizational level of institution: United States, fall 1954 to 1986[1] – Cont.

[In thousands]

Year (fall)	Total public and nonpublic			Public			Nonpublic (estimated)[2]		
	K-12	Elementary	Secondary	K-12	Elementary	Secondary	K-12	Elementary	Secondary
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
				High alternative projection[6]					
1977	48,687	28,623	20,064	43,687	25,023	18,664	5,000	3,600	1,400
1978	47,840	28,175	19,665	42,840	24,575	18,265	5,000	3,600	1,400
1979	46,934	27,822	19,112	41,934	24,222	17,712	5,000	3,600	1,400
1980	46,126	27,634	18,492	41,126	24,034	17,092	5,000	3,600	1,400
1981	45,523	27,564	17,959	40,523	23,964	16,559	5,000	3,600	1,400
1982	45,223	27,685	17,538	40,223	24,085	16,138	5,000	3,600	1,400
1983	45,412	28,095	17,317	40,412	24,495	15,917	5,000	3,600	1,400
1984	46,014	28,870	17,144	41,014	25,270	15,744	5,000	3,600	1,400
1985	46,914	29,947	16,967	41,914	26,347	15,567	5,000	3,600	1,400
1986	48,068	31,356	16,712	43,068	27,756	15,312	5,000	3,600	1,400

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[1] Does not include independent nursery schools and kindergartens, residential schools for exceptional children, subcollegiate departments of institutions of higher education, Federal schools for Indians, federally operated schools on Federal installations, and other schools not in the regular school system.

[2] Estimated unless noted. Estimates for 1971 through 1975 revised based on 1976 information from Curriculum Information Center, Denver, Colorado, and Market Data Retrieval, New York, N.Y.

[3] Reported data from Office of Education surveys.

[4] Estimates are based on reported data from the Office of Education and the National Catholic Education Association.

[5] Revised.

[6] The projection of fall enrollment in regular public day schools by organizational level is based on the assumption that the percentage of enrollment in grades 7 and 8 that will be organized as secondary enrollment will remain constant at the average of the 1974-1976 levels.

The projection of regular fall enrollment in nonpublic schools by organizational level is based on the assumption that substantially all nonpublic enrollment in grades 7 and 8 will continue as elementary enrollment.

SOURCES: Enrollment data and estimates are based on (1) U.S. Department of Health, Education, and Welfare, National Center for Education Statistics publications: (a) *Statistics of Public Elementary and Secondary Day Schools*, fall 1964 through 1976, (b) *Enrollment, Teachers, and Schoolhousing*, fall 1954 through 1963, (c) *Statistics of Nonpublic Elementary and Secondary Schools*, 1970-71, (d) *Statistics of Public and Nonpublic Elementary and Secondary Day Schools, 1965-66*, (e) *Statistics of Nonpublic Elementary and Secondary Schools, 1965-66*, (f) *Nonpublic School Enrollment in grades 9-12, Fall 1964 and Graduates, 1963-64*, (g) *Statistics of Nonpublic Elementary Schools, 1961-62*, (h) *Statistics of Nonpublic Secondary Schools, 1960-61* and (2) National Catholic Education Association publications: (a) *A Report on U.S. Catholic Schools, 1970-71* and (b) *U.S. Catholic Schools*, 1971-72 through 1976-77.

Table 5.–Total enrollment in all institutions of higher education, with alternative projections, by sex and attendance status of student and control of institution: United States, fall 1963 to 1986

[In thousands]

Year (fall)	Total enrollment	Sex		Attendance status[1]		Control	
		Men	Women	Full-time	Part-time	Public	Private
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1963	4,766	2,955	1,811	3,183	1,582	3,066	1,700
1964	5,280	3,249	2,031	3,558	1,722	3,468	1,812
1965	5,921	3,630	2,291	4,082	1,837	3,970	1,951
1966	6,390	3,856	2,534	4,439	1,951	4,349	2,041
1967	6,912	4,133	2,779	4,793	2,119	4,816	2,096
1968	7,513	4,478	3,035	5,210	2,303	5,431	2,082
1969	8,005	4,746	3,258	5,499	2,506	5,897	2,108
1970	8,581	5,044	3,537	5,815	2,766	6,428	2,153
1971	8,949	5,207	3,742	6,077	2,871	6,304	2,144
1972	9,215	5,239	3,976	6,072	3,142	7,071	2,144
1973	9,602	5,371	4,231	6,189	3,413	7,420	2,183
1974	10,224	5,622	4,601	6,370	3,853	7,989	2,235
1975	11,185	6,149	5,036	6,841	4,344	8,835	2,350
1976	11,012	5,811	5,201	6,717	4,295	8,653	2,359
				Intermediate alternative projection[2]			
1977	11,499	6,095	5,404	6,881	4,618	9,090	2,409
1978	11,782	6,212	5,570	6,932	4,850	9,368	2,414
1979	12,079	6,345	5,734	6,984	5,095	9,653	2,426
1980	12,376	6,468	5,908	7,032	5,344	9,941	2,435
1981	12,579	6,566	6,013	7,032	5,547	10,149	2,430
1982	12,722	6,618	6,104	6,997	5,725	10,311	2,411
1983	12,816	6,648	6,168	6,934	5,882	10,437	2,379
1984	12,860	6,653	6,207	6,850	6,010	10,516	2,344
1985	12,881	6,643	6,238	6,757	6,124	10,578	2,303
1986	12,903	6,634	6,269	6,654	6,249	10,653	2,250
				Low alternative projection[3]			
1977	11,287	6,026	5,261	6,781	4,506	8,922	2,365
1978	11,408	6,094	5,314	6,754	4,654	9,059	2,349
1979	11,524	6,161	5,363	6,735	4,789	9,189	2,335
1980	11,631	6,214	5,417	6,720	4,911	9,309	2,322
1981	11,646	6,241	5,405	6,661	4,985	9,352	2,294
1982	11,602	6,223	5,379	6,575	5,027	9,348	2,254
1983	11,510	6,183	5,327	6,475	5,035	9,300	2,210
1984	11,367	6,117	5,250	6,350	5,017	9,208	2,159
1985	11,204	6,034	5,170	6,224	4,980	9,097	2,107
1986	11,040	5,950	5,090	6,099	4,941	8,983	2,057

See footnotes at end of table.

Table 5.–Total enrollment in all institutions of higher education, with alternative projections, by sex and attendance status of student and control of institution: United States, fall 1963 to 1986 – Cont.

[In thousands]

Year (fall)	Total enroll-ment	Sex		Attendance status[1]		Control	
		Men	Women	Full-time	Part-time	Public	Private
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			High alternative projection[4]				
1977	11,696	6,148	5,548	6,991	4,705	9,255	2,441
1978	12,156	6,330	5,826	7,108	5,048	9,679	2,477
1979	12,635	6,530	6,105	7,224	5,411	10,122	2,513
1980	13,122	6,722	6,400	7,332	5,790	10,575	2,547
1981	13,511	6,890	6,621	7,376	6,135	10,955	2,556
1982	13,841	7,012	6,829	7,373	6,468	11,291	2,550
1983	14,122	7,112	7,010	7,335	6,787	11,591	2,531
1984	14,351	7,188	7,163	7,264	7,087	11,849	2,502
1985	14,558	7,252	7,306	7,173	7,385	12,096	2,462
1986	14,763	7,316	7,447	7,055	7,708	12,371	2,392

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[1] Estimated for all years prior to 1968. See appendix A, "Estimation Methods."

[2] The intermediate alternative projections of enrollment in institutions of higher education are based primarily on the following assumptions: (a) The enrollment rates by age and sex of student will equal the average of the rates for the high and low alternative projections. (b) For each sex, the percentage that enrollment in each type, control, and attendance-status category represents of total enrollment will equal the average of the percentages for the high and low alternative projections.

[3] The low alternative projections of enrollment in institutions of higher education are based primarily on the following assumptions: (a) The enrollment rates by age and sex of student will remain constant at the average of the 1975 and 1976 enrollment rates. (b) For each sex, the percentage that enrollment in each type, control, and attendance-status category represents of total enrollment will follow the 1972 to 1976 trends with upper and lower limits applied through 1986.

[4] The high alternative projections of enrollment in institutions of higher education are based primarily on the following assumptions: (a) The enrollment rates by age and sex of student will follow the 1967 to 1976 trends through 1986. (b) For each sex, the percentage that enrollment in each type, control, and attendance-status category represents of total enrollment will follow the 1972 to 1976 trends through 1986.

For further methodological details, see appendix A, table A-1.

NOTE.–Data are for 50 States and the District of Columbia for all years. Because of rounding, details may not add to totals.

SOURCE: Enrollment data and estimates are based on U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, publications: (1) *Opening (Fall) Enrollment in Higher Education*, annually 1963 through 1968, 1971 through 1976, (2) *Fall Enrollment in Higher Education, Supplementary Information, 1969 and 1970*, and (3) unpublished data from Resident and Extension Enrollment in Institutions of Higher Education, fall 1966 and 1967.

Populations on which projections are based are shown in appendix B, table B-2.

Table 6.–Total enrollment in 4-year institutions of higher education, with alternative projections, by sex and attendance status of student and control of institution: United States, fall 1963 to 1986

[In thousands]

Year (fall)	Total enrollment	Sex		Attendance status[1]		Control	
		Men	Women	Full-time	Part-time	Public	Private
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1963[2]	3,921	2,422	1,499	2,760	1,161	2,331	1,590
1964[2]	4,291	2,630	1,661	3,041	1,250	2,593	1,698
1965[2]	4,748	2,896	1,852	3,440	1,308	2,928	1,820
1966[2]	5,064	3,047	2,017	3,701	1,362	3,160	1,904
1967[2]	5,399	3,218	2,181	3,973	1,426	3,444	1,955
1968[2]	5,721	3,387	2,333	4,235	1,486	3,784	1,937
1969[2]	6,028	3,555	2,473	4,442	1,586	4,050	1,978
1970[2]	6,358	3,726	2,631	4,650	1,708	4,326	2,032
1971[2]	6,463	3,758	2,705	4,787	1,676	4,438	2,024
1972	6,459	3,695	2,764	4,732	1,727	4,430	2,029
1973	6,590	3,718	2,872	4,757	1,833	4,530	2,060
1974	6,820	3,791	3,029	4,861	1,959	4,703	2,117
1975	7,215	3,984	3,231	5,080	2,134	4,998	2,217
1976	7,129	3,831	3,298	5,053	2,076	4,902	2,227
			Intermediate alternative projection[3]				
1977	7,294	3,931	3,363	5,117	2,177	5,025	2,269
1978	7,315	3,944	3,371	5,089	2,226	5,045	2,270
1979	7,358	3,967	3,391	5,076	2,282	5,081	2,277
1980	7,400	3,983	3,417	5,061	2,339	5,116	2,284
1981	7,386	3,983	3,403	5,009	2,377	5,111	2,275
1982	7,337	3,956	3,381	4,933	2,404	5,083	2,254
1983	7,257	3,915	3,342	4,837	2,420	5,036	2,221
1984	7,155	3,861	3,294	4,726	2,429	4,970	2,185
1985	7,042	3,799	3,243	4,610	2,432	4,899	2,143
1986	6,924	3,740	3,184	4,483	2,441	4,834	2,090
			Low alternative projection[3]				
1977	7,159	3,891	3,268	5,030	2,129	4,933	2,226
1978	7,123	3,884	3,239	4,972	2,151	4,912	2,211
1979	7,088	3,878	3,210	4,920	2,168	4,893	2,195
1980	7,059	3,868	3,191	4,874	2,185	4,878	2,181
1981	6,982	3,844	3,138	4,798	2,184	4,830	2,152
1982	6,876	3,795	3,081	4,705	2,171	4,763	2,113
1983	6,755	3,738	3,017	4,605	2,150	4,685	2,070
1984	6,610	3,668	2,942	4,489	2,121	4,589	2,021
1985	6,463	3,592	2,871	4,375	2,088	4,493	1,970
1986	6,318	3,517	2,801	4,265	2,053	4,397	1,921

See footnotes at end of table.

Table 6.–Total enrollment in 4-year institutions of higher education, with alternative projections, by sex and attendance status of student and control of institution: United States, fall 1963 to 1986 – Cont.

[In thousands]

Year (fall) (1)	Total enroll-ment (2)	Sex		Attendance status[1]		Control	
		Men (3)	Women (4)	Full-time (5)	Part-time (6)	Public (7)	Private (8)
				High alternative projection[3]			
1977	7,388	3,959	3,429	5,175	2,213	5,090	2,298
1978	7,508	4,004	3,504	5,204	2,304	5,179	2,329
1979	7,622	4,054	3,568	5,223	2,399	5,264	2,358
1980	7,728	4,095	3,633	5,234	2,494	5,343	2,385
1981	7,764	4,115	3,649	5,192	2,572	5,375	2,389
1982	7,752	4,105	3,647	5,113	2,639	5,374	2,378
1983	7,702	4,075	3,627	5,006	2,696	5,347	2,355
1984	7,617	4,031	3,586	4,873	2,744	5,295	2,322
1985	7,510	3,976	3,534	4,723	2,787	5,230	2,280
1986	7,377	3,919	3,458	4,539	2,838	5,171	2,206

[1] Estimated for all years prior to 1968. See appendix A, "Estimation Methods."

[2] Prior to 1972, the enrollments in many 2-year campuses that were parts of multicampus institutions and the enrollments in 2-year institutions that were parts of systems of institutions were included in totals for 4-year institutions.

[3] For assumptions underlying these projections, see footnotes to table 5. For methodological details, see appendix A, table A-1.

NOTE.–Data are for 50 States and the District of Columbia for all years. Because of rounding, details may not add to totals.

SOURCE: Enrollment data and estimates are based on U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, publications: (1) *Opening (Fall) Enrollment in Higher Education,* annually 1963 through 1968, 1971 through 1976, (2) *Fall Enrollment in Higher Education, Supplementary Information, 1969 and 1970,* and (3) unpublished data from Resident and Extension Enrollment in Institutions of Higher Education, fall 1966, and 1967.

Populations on which projections are based are shown in appendix B, table B-2.

Table 7.—Total enrollment in 2-year institutions of higher education, with alternative projections, by sex and attendance status of student and control of institution: United States, fall 1963 to 1986

[In thousands]

Year (fall)	Total enroll-ment	Sex		Attendance status[1]		Control	
		Men	Women	Full-time	Part-time	Public	Private
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1963[2]	845	534	312	423	422	735	109
1964[2]	989	619	370	516	472	874	114
1965[2]	1,173	734	439	643	530	1,041	132
1966[2]	1,326	809	517	737	589	1,189	137
1967[2]	1,513	915	598	820	693	1,372	141
1968[2]	1,792	1,090	702	976	817	1,646	146
1969[2]	1,977	1,191	786	1,057	920	1,847	130
1970[2]	2,223	1,317	906	1,165	1,058	2,102	121
1971[2]	2,486	1,449	1,037	1,291	1,195	2,366	120
1972	2,756	1,544	1,212	1,340	1,416	2,641	115
1973	3,012	1,653	1,360	1,432	1,580	2,890	122
1974	3,404	1,832	1,572	1,509	1,895	3,285	119
1975	3,970	2,165	1,805	1,761	2,209	3,836	134
1976	3,883	1,980	1,903	1,664	2,219	3,752	132
			Intermediate alternative projection[3]				
1977	4,205	2,164	2,041	1,764	2,441	4,065	140
1978	4,467	2,268	2,199	1,843	2,624	4,323	144
1979	4,721	2,378	2,343	1,908	2,813	4,572	149
1980	4,976	2,485	2,491	1,971	3,005	4,825	151
1981	5,193	2,583	2,610	2,023	3,170	5,038	155
1982	5,385	2,662	2,723	2,064	3,321	5,228	157
1983	5,559	2,733	2,826	2,097	3,462	5,401	158
1984	5,705	2,792	2,913	2,124	3,581	5,546	159
1985	5,839	2,844	2,995	2,147	3,692	5,679	160
1986	5,979	2,894	3,085	2,171	3,808	5,819	160
			Low alternative projection[3]				
1977	4,128	2,135	1,993	1,751	2,377	3,989	139
1978	4,285	2,210	2,076	1,782	2,503	4,147	138
1979	4,436	2,283	2,153	1,815	2,621	4,296	140
1980	4,572	2,346	2,226	1,846	2,726	4,431	141
1981	4,664	2,397	2,267	1,863	2,801	4,522	142
1982	4,726	2,428	2,298	1,870	2,856	4,585	141
1983	4,755	2,445	2,310	1,870	2,885	4,615	140
1984	4,757	2,449	2,308	1,861	2,896	4,619	138
1985	4,741	2,442	2,299	1,849	2,892	4,604	137
1986	4,722	2,433	2,289	1,834	2,888	4,586	136

See footnotes at end of table.

Table 7.–Total enrollment in 2-year institutions of higher education, with alternative projections, by sex and attendance status of student and control of institution: United States, fall 1963 to 1986 – Cont.

[In thousands]

Year (fall) (1)	Total enrollment (2)	Sex		Attendance status[1]		Control	
		Men (3)	Women (4)	Full-time (5)	Part-time (6)	Public (7)	Private (8)
				High alternative projection[3]			
1977	4,308	2,189	2,119	1,816	2,492	4,165	143
1978	4,648	2,326	2,322	1,904	2,744	4,500	148
1979	5,013	2,476	2,537	2,001	3,012	4,858	155
1980	5,394	2,627	2,767	2,098	3,296	5,232	162
1981	5,747	2,775	2,972	2,184	3,563	5,580	167
1982	6,089	2,907	3,182	2,260	3,829	5,917	172
1983	6,420	3,037	3,383	2,329	4,091	6,244	176
1984	6,734	3,157	3,577	2,391	4,343	6,554	180
1985	7,048	3,276	3,772	2,450	4,598	6,866	182
1986	7,386	3,397	3,989	2,516	4,870	7,200	186

[1] Estimated for all years prior to 1968. See appendix A, "Estimation Methods."

[2] Prior to 1972, the enrollments in many 2-year campuses that were parts of multicampus institutions and the enrollments in 2-year institutions that were parts of systems of institutions were included in totals for 4-year institutions.

[3] For assumptions underlying these projections, see footnotes to table 5 For methodological details, see appendix A, table A-1.

NOTE.–Data are for 50 States and the District of Columbia for all years. Because of rounding, details may not add to totals.

SOURCE: Enrollment data and estimates are based on U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, publications: (1) *Opening (Fall) Enrollment in Higher Education*, annually 1963 through 1968, 1971 through 1976, (2) *Fall Enrollment in Higher Education, Supplementary Information, 1969 and 1970*, and (3) unpublished data from Resident and Extension Enrollment in Institutions of Higher Education, fall 1966, and 1967.

Populations on which projections are based are shown in appendix B, table B-2.

Table 8.–Full-time-equivalent enrollment in all institutions of higher education, with alternative projections, by control of institutions: United States, fall 1963 to 1986

[In thousands]

Year (fall) (1)	Total (2)	Public (3)	Private (4)
1963[1]	3,696	2,351	1,345
1964[1]	4,115	2,671	1,444
1965[1]	4,671	3,094	1,577
1966[1]	5,070	3,398	1,672
1967[1]	5,480	3,761	1,719
1968[1]	5,954	4,228	1,726
1969[1]	6,319	4,564	1,755
1970[1]	6,721	4,937	1,783
1971[1]	7,003	5,218	1,785
1972[2]	7,255	5,454	1,801
1973[2]	7,454	5,630	1,824
1974[2]	7,806	5,945	1,861
1975[2]	8,481	6,523	1,958
1976[2]	8,313	6,850	1,963
	Intermediate alternative projection[3]		
1977	8,604	6,607	1,997
1978	8,741	6,746	1,995
1979	8,882	6,884	1,998
1980	9,021	7,022	1,999
1981	9,096	7,107	1,989
1982	9,127	7,160	1,967
1983	9,121	7,186	1,935
1984	9,084	7,184	1,900
1985	9,033	7,171	1,862
1986	8,975	7,166	1,809
	Low alternative projection[3]		
1977	8,461	6,500	1,961
1978	8,489	6,545	1,944
1979	8,519	6,591	1,928
1980	8,549	6,635	1,914
1981	8,517	6,629	1,888
1982	8,447	6,594	1,853
1983	8,348	6,532	1,816
1984	8,216	6,444	1,772
1985	8,077	6,349	1,728
1986	7,937	6,252	1,685

See footnotes at end of table.

Table 8.–Full-time-equivalent enrollment in all institutions of higher education, with alternative projections, by control of institutions: United States, fall 1963 to 1986 – Cont.

[In thousands]

Year (fall) (1)	Total (2)	Public (3)	Private (4)
	High alternative projection[3]		
1977	8,745	6,723	2,022
1978	8,989	6,995	2,044
1979	9,239	7,175	2,064
1980	9,487	7,405	2,082
1981	9,657	7,578	2,079
1982	9,777	7,714	2,063
1983	9,857	7,821	2,036
1984	9,896	7,896	2,000
1985	9,914	7,958	1,956
1986	9,915	8,037	1,878

[1] Estimated. See appendix A, "Estimation Methods."

[2] Full-time-equivalent enrollment as reported by the individual institutions.

[3] Projections are based on mainly in the assumption that for each category of type and control of institution, the full-time-equivalent of part-time enrollment will remain constant at the 1972 to 1976 average level through 1986. The methodology used to compute alternative projections of full-time and part-time enrollments by type and control of institution is described in detail in appendix A, table A-1. For assumptions underlying the alternative projections see footnotes 2, 3 and 4 in table 5.

SOURCES: Enrollment data and estimates are based on U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, publications: (1) *Opening (Fall) Enrollment in Higher Education,* annually, 1963 through 1968, 1971 through 1976, (2) *Fall Enrollment in Higher Education, Supplementary Information,* 1969 and 1970, (3) unpublished data from Resident and Extension Enrollment in Institutions of Higher Education, fall 1966 and 1967, and (4) sample survey of full-time-equivalent enrollments and credit hours, fall 1964 (unpublished).

Table 9.–Graduate enrollment in 4-year institutions of higher education, with alternative projections by sex and attendance status of student and by control of institutions: United States, fall 1963 to 1986[1]

[In thousands]

Year (fall)	Total graduate degree-credit enrollment	Sex		Attendance status		Control	
		Men	Women	Full-time	Part-time	Public	Private
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1963[2]	521	359	162	188	333	319	202
1964[2]	608	410	198	221	387	378	230
1965[2]	697	465	232	256	441	440	257
1966[2]	768	503	265	285	483	489	279
1967[2]	849	547	302	317	532	550	299
1968[2]	885	558	327	337	548	584	301
1969	955	590	366	364	591	666	289
1970	1,031	632	399	379	652	724	307
1971	1,012	615	397	388	624	712	300
1972	1,066	627	439	393	673	757	308
1973	1,123	647	476	409	714	799	324
1974	1,190	663	527	428	762	852	338
1975	1,263	700	563	453	810	906	357
1976	1,333	715	619	464	870	932	401
			Intermediate alternative projection[3]				
1977	1,392	742	650	480	912	975	417
1978	1,421	752	669	489	932	995	426
1979	1,457	767	690	501	956	1,020	437
1980	1,491	778	713	512	979	1,045	446
1981	1,511	785	726	516	995	1,059	452
1982	1,525	787	738	519	1,006	1,069	456
1983	1,532	789	743	519	1,013	1,075	457
1984	1,534	784	750	517	1,017	1,077	457
1985	1,534	779	755	516	1,018	1,077	457
1986	1,532	774	758	510	1,022	1,076	456
			Low alternative projection[3]				
1977	1,363	733	630	472	891	954	409
1978	1,379	739	640	479	900	964	415
1979	1,393	746	647	486	907	975	418
1980	1,409	750	659	494	915	986	423
1981	1,409	751	658	495	914	985	424
1982	1,404	746	658	496	908	982	422
1983	1,395	742	653	495	900	976	419
1984	1,379	731	648	492	887	964	415
1985	1,364	721	643	490	874	953	411
1986	1,345	709	636	486	859	941	404

See footnotes at end of table.

Table 9.–Graduate enrollment in 4-year institutions of higher education, with alternative projections by sex and attendance status of student and by control of institutions: United States, fall 1963 to 1986[1] –Cont.

[In thousands]

Year (fall) (1)	Total graduate degree-credit enrollment (2)	Sex		Attendance status		Control	
		Men (3)	Women (4)	Full-time (5)	Part-time (6)	Public (7)	Private (8)
				High alternative projection[3]			
1977	1,412	748	664	485	927	989	423
1978	1,465	765	700	500	965	1,026	439
1979	1,520	788	732	515	1,005	1,066	454
1980	1,572	804	768	528	1,044	1,103	469
1981	1,611	818	793	534	1,077	1,131	480
1982	1,643	827	816	538	1,105	1,153	490
1983	1,665	834	831	536	1,129	1,170	495
1984	1,683	836	847	534	1,149	1,183	500
1985	1,696	836	860	528	1,168	1,194	502
1986	1,704	835	869	516	1,188	1,201	503

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[1] Includes resident and extension graduate degree-credit enrollment. The estimates, 1965-68, and data, 1969-1972, differ from figures in 1973 and earlier editions of *Projections of Educational Statistics* because they include extension graduate enrollment, which previously was included in undergraduate and first-professional degree-credit enrollment figures.

[2] For method of estimating total graduate enrollment, 1963 to 1968 see appendix A, "Estimation Methods."

[3] The projections of graduate enrollment are based on the following assumptions for each sex: (a) The percentage that full-time graduate enrollment represents of total full-time enrollment in 4-year institutions will follow the 1972 to 1976 trend through 1986. (b) The percentage that part-time graduate enrollment is of total part-time enrollment in 4-year institutions will remain constant at the 1976 level through 1986. (c) For full-time and part-time enrollment separately, the percentage that public enrollment in 4-year institutions represents of all enrollment in 4-year institutions will remain constant at the 1976 level through 1986, and (d) the alternative graduate enrollment projections are consistent with the projections of total enrollment in 4-year institutions shown in table 6.

NOTE.–Data are for 50 States and the District of Columbia for all years. Because of rounding details may not add to totals.

SOURCES: Enrollment data and estimates are based on U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, publications: (1) *Opening (Fall) Enrollment in Higher Education*, annually, 1963 through 1968, 1971 through 1976. (2) *Fall Enrollment in Higher Education, Supplementary Information*, 1969 and 1970, and (3) unpublished data from Resident and Extension Enrollment in Institutions of Higher Education, fall 1966 and 1967, and (4) *Residence and Migration of College Students, fall 1968.*

Chapter III
HIGH SCHOOL GRADUATES AND EARNED DEGREES

Debra Gerald and Loraine C. Simpson

HIGH SCHOOL GRADUATES

The number of high school graduates increased from 1.4 million in 1954-55 to 3.2 million in 1975-76, an increase of 128.6 percent (table 10). High school graduations are expected to remain at about the 1975-76 level through 1978-79, then decrease to 2.7 million in 1984-85, and then begin a gradual increase. The expected decrease of 15.6 percent between 1975-76 and 1984-85 reflects the projected 16.2 percent decrease in the 17- and 18-year-old population over the same period.

Unlike the data on enrollments in chapter II, the high school graduate figures in table 10 include graduates from the following schools not in the regular school system: Federal schools for Indians, schools on Federal installations, residential schools for exceptional children, and subcollegiate departments of colleges and universities. Graduates of these schools comprise less than 1 percent of all high school graduates. Equivalency certificates are not included in the high school graduate figures. In 1976 over 330,000 high school equivalency credentials were issued by State education departments.[1]

Projections of public high school graduates are based on the assumption that, for boys and girls separately, high school graduates expressed as a percentage of the average of the 17- and 18-year-old population will remain constant at the average of the 1973-74–1975-76 rates through 1986-87. In the early and mid-1960's, these rates were increasing, but in the late 1960's and early 1970's they leveled off. Therefore, projections made prior to the 1973 edition tended to be too high, by an average of about 1.5 percent 1 year out, up to a maximum of about 12 percent for 5 or more years out. Beginning in the 1973 edition, projections have been based on constant rates. These projections have proven to be quite accurate, differing from actual counts of high school graduates by an average of less than 1 percent for 1 and 2 years out. The current projections should be fairly accurate as long as the enrollment and graduation patterns of high school students remain consistent with those established over the past 7 or 8 years.

Projections of nonpublic high school graduates are based on the assumption that the number of graduates will remain constant through 1986-87. This is consistent with similar assumptions regarding nonpublic secondary enrollment. The projections of nonpublic high school graduates should be considered as "best guesses" since most figures for 1954-55 through 1975-76 are estimates based on limited information.

EARNED DEGREES

Reports of earned degrees are submitted each fall by degree-granting institutions of higher education to the National Center for Education Statistics. These provide information on the number of degrees granted, by level, sex, and academic field of concentration. They cover degrees granted during the academic year ending in June and include degrees earned in the prior summer.

Starting with the 1972 edition of *Projections of Educational Statistics*, two major changes were made. One change–the result of basing the survey of earned degrees on a new taxonomy–produced a new classification of earned degrees. The fields, as shown in tables 12-16, are consistent with that shown in *A Taxonomy of Instructional Programs in Higher Education.*[2] To obtain the distribution of degrees by field for the years prior to 1970-71, the earned degrees were redistributed as well as possible to conform to the new taxonomy. For a complete listing of the instructional programs included in each field, see appendix A, "Classification of Degrees by Field of Study," pages 143-146.

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[1] American Council on Education, *GED Annual Statistical Report*, Washington, D.C., 1976.

[2] Robert A. Huff and Marjorie O. Chandler, U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *A Taxonomy of Institutional Programs in Higher Education* (Washington, D.C., U.S. Government Printing Office, 1970).

The other change dealt with the principal levels of earned degrees that were reported and projected. In the years before the 1972 edition, three principal levels were projected: bachelor's, including first-professional degrees; master's degrees; and doctorates. Now, bachelor's degrees and first-professional degrees are projected separately. Since 1960-61, first-professional degrees have been reported separately from bachelor's degrees, but the definitions of what constitutes a first-professional degree have not been uniform throughout the period. For that reason, no attempt was made prior to 1972 to project these degrees separately. (See appendix A, "Changes in Degree-Level Definitions," for a comparison of these definitions.) Recently, however, a stable definition of first-professional degrees has been established, and reporting is expected to be reasonably uniform in the future.

Level and Sex

Low, intermediate and high alternative projections of bachelor's, master's, doctor's, and first-professional degrees are shown in the tabulation below (from table 11).

For projecting bachelor's, master's and doctor's degrees by sex, a separate composite population, representative of the age distribution of recent college graduates, was developed for each degree by level and sex category. The composite populations are shown in appendix B, table B-3. The footnotes to this table describe the methodology used to determine the composite population.

Projections of total first-professional degrees are determined by summing the projections of the individual fields in table 16. Projections of first-professional degrees in the health profession were obtained from the Bureau of Health Manpower, and take into consideration provisions of the new health manpower legislation, P.L. 94-484.

For both men and women, bachelor's degrees expressed as a percentage of the composite population increased throughout the 1960's, but in the early 1970's these percentages either began decreasing or leveled off. In addition, the latest data on upper division enrollment[3] (juniors and seniors enrolled for 4- or 5-year baccalaureate degrees) do not indicate increases in these percentages through 1977-78. Therefore, for each sex, the average of the percentages for the 1976-77 and 1977-78 projections (based on upper division enrollment) was held constant through 1986-87 and alternative projections are not shown.

Intermediate projections of master's and doctor's degrees by sex are based primarily on the assumption that these degrees expressed as a percentage of the composite population will equal the average of the projected 1960-61 to 1975-76 trend values (high alternative) and the 1975-76 percentage (low alternative). These percentages for men doctor's degrees have been decreasing. Therefore, the 1960-61 to 1975-76 trend values represent low alternative projections and the 1975-76 percentage represents high alternative projections.

For projections of first-professional degrees, alternative projections in the health fields are not computed, since projections in these fields were obtained from the Bureau of Health Manpower. However, alternative projections for law and theology are made for each sex in the same manner as described for master's and doctor's degrees. The alternative projections in these two fields determine the alternative projections for all first-professional degrees.

Level of degree	Granted 1960-61	Granted 1975-76	Projected 1986-87		
			Intermediate alternative	Low alternative	High alternative
Bachelor's	369,995	925,746	979,000	979,000	979,000
First-professional	25,253	62,649	75,200	71,400	78,900
Master's	81,690	311,711	439,400	387,800	491,000
Doctor's	10,575	34,064	42,200	33,300	51,000

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[3] Stanley V. Smith and Agnes Q. Wells, U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Upper Division Enrollment by Degree Field, Fall 76* (in process).

Level and Field

Percentage distributions by field of study are shown for bachelor's, master's, and doctor's degrees for the years 1964-65, 1975-76, and 1986-87 in table 12. The percentages are based on reported data for 1964-65 and 1975-76 and are based on projections for 1986-87.

Several fields are expected to show significant increases in their percentage of total bachelor's degrees. From 1975-76 to 1986-87, engineering is expected to increase from 5.0 to 7.0 percent, health from 5.8 to 7.8, public affairs and services from 3.6 to 4.7 and fine and applied arts from 4.6 to 5.6.

Education is expected to decrease sharply from 16.7 percent of total bachelor's degrees in 1975-76 to 11.9 percent in 1986-87. Social science (14.0 to 12.6 percent) and letters (5.6 to 2.7 percent) are also expected to decrease from 1975-76 to 1986-87.

The two largest master's degree fields, education and business and management, which constituted over 50 percent of all master's degrees in 1975-76, are expected to increase in their percentage of total master's degrees from 1975-76 to 1986-87. Business and management is expected to increase from 12.8 to 14.6 percent and education is expected to increase from 41.0 to 42.8 percent. The major decreases in percentages that are expected from 1975-76 to 1986-87 are social science (5.4 to 2.4), letters (3.6 to 2.7) and engineering (5.2 to 3.7).

At the doctorate level the social science percentage of all doctor's degrees is expected to increase from 1975-76 to 1986-87 (from 12.7 to 13.3) even though decreases are expected at the bachelor's and master's levels. Education is expected to make the most notable increase in its percentage of total doctor's degrees, increasing from 22.8 in 1975-76 to 27.6 in 1986-87. Noteworthy percentage decreases at the doctoral level are expected in letters (7.2 to 6.4) engineering (8.3 to 5.9) and physical sciences (10.1 to 7.8).

Projections of bachelor's, master's, and doctor's degrees for the 19 major fields of study and the "other" category are shown in tables 13, 14, and 15. Projections of first-professional degrees are shown in table 16.

Projections of degrees by field for each level and sex category are based on the assumption that the percentage distribution of degrees by field will continue the 1960-61 to 1975-76 trends through 1986-87.

Recent enrollment data from *Upper Division Enrollment by Degree Field* and *Students Enrolled for Advanced Degrees*[4] were used as directional indicators for bachelor's and master's degrees. Other independent data sources considered in making these projections were survey data collected by the Engineers Joint Council for engineering degrees; survey data from the American Institute of Certified Public Accountants for bachelor's degrees in accounting; and data from the Health Resources Administration, Bureau of Health Manpower, for first-professional degrees in the health field.

Because of the amount of detail included in these tables, only intermediate alternative projections are shown.

Bachelor's Degrees, by Field

The number of bachelor's degrees granted in health professions (excluding first-professional degrees in such fields as medicine, dentistry, podiatry, optometry, osteopathy, and veterinary medicine) has shown the most noteworthy increase in the past 11 years, from 15,848 in 1965-66 to 53,958 in 1975-76 (an increase of 240.5 percent) (table 13). From 1975-76 to 1986-87, the number of bachelor's degrees granted in health professions is expected to show a much smaller increase (42.3 percent) to 76,790. Engineering degrees are expected to increase by 48.0 percent–from 46,331 to 68,560.

These trends appear to be consistent with the recent job market for graduates in these fields. According to the results of an NCES survey on 1974-75 college graduates,[5] those who majored in engineering and health professions had the lowest underemployment rate. Underemployed college graduates were defined in this study as "those not working in an occupation for which their credentials would seem to qualify them and who report that, in their opinion, their jobs do not require a college degree." Engineering degree recipients also received the highest average salary of all degree fields considered in the study.

Other fields expected to show moderate increases from 1975-76 to 1986-87 are public affairs and services, 38.9 percent (33,238 to 46,160), architecture and environmental design, 27.8 percent (8,146 to 11,690) and communications, 42.4 percent (21,282 to 30,300). A much larger percentage increase is expected in computer and information sciences. From 1975-76 to 1986-87, degrees in this field are expected to increase 111.4 percent, from 5,652 in 1975-76 to 11,950 in 1986-87.

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[4] Stanley V. Smith and Agnes Q. Wells, U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Students Enrolled for Advanced Degrees, Fall 1976* (in process).

[5] Mark Borinsky, U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Survey of 1974-75 College Graduates* (Washington, D.C., U.S. Government Printing Office, 1978).

Fields expected to decrease slightly are social sciences, 5.0 percent (129,864 to 123,350), foreign language, 21.3 percent (15,471 to 12,180), and mathematics and statistics, 7.4 percent (15,984 to 14,800). A significant decrease (50.0 percent) is expected in the field of letters, from 51,515 in 1975-76 to 26,000 in 1986-87. The number of degrees in this field has already decreased 29.7 percent since 1971-72, when it reached a peak of 73,253.

Although not all new teachers major in education, education graduates make up a large portion of all new teacher graduates (an estimated 69 percent in 1976–see tables 13 and 21). As the large enrollment increases of the 1960's occurred, the number of new teacher graduates increased. The number of bachelor's degrees granted in education increased from 91,187 in 1960-61 to its peak of 194,210 in 1972-73. However, the large increases in the production of new teacher graduates in the late 1960's and early 1970's (see table 21), and hence the large increases in the number of education degrees granted (from 132,087 in 1967-68 to 194,210 in 1972-73) were perhaps an overreaction to the large demand for new teacher graduates, caused in part by Federal programs aimed at yielding large numbers of new teacher graduates.

Therefore, the recent large decreases in the number of education degrees granted (from 194,210 in 1972-73 to 154,758 in 1975-76), which were undoubtedly caused in part by the large amount of publicity given to recent teacher surpluses, might be natural adjustments to unduly high levels of teacher production in recent years. If this is the case, projections of education degrees, based on the recent rapid decreases in this field (as are the education projections in table 13), might prove to be too low, especially in the 1980's.

This possibility seems to be supported by results from the *Survey of 1974-75 College Graduates*, which indicates that education graduates had a lower-than-average underemployment rate–less than half the rate for graduates in psychology, social sciences, and humanities.

Although education degrees are expected to continue decreasing (from 154,758 in 1975-76 to 116,340 in 1986-87), the rate of decrease is not expected to be nearly as great as during the past few years. It is also possible that there will be a change in the direction of the trend in the 1980's, as expected elementary and secondary school enrollment increases (table 4) once again give rise to increases in the number of education degrees granted.

As mentioned earlier, 1974-75 graduates in psychology, social sciences, and humanities experienced high underemployment rates. Although the degree projections in this publication are not based empirically on market conditions, projections of social sciences and of all fields in the humanities category are expected to decrease, with projections of psychology degrees showing only a slight increase.

Master Degrees, by Field

Education is by far the largest single master's degree field, comprising 41 percent of all master's degrees in 1975-76 (table 14). Unlike bachelor's degrees, for which projections show an expected decrease in the number of degrees earned in education, it is expected that increases in the number of master's degrees earned in education will keep pace with expected overall increases in the number of master's degrees granted. The number of master's degrees granted in education is expected to increase from 127,948 in 1975-76 to 188,220 in 1986-87. Undoubtedly, this is in part due to salary schedules in many school systems which pay higher salaries to teachers with master's degrees.

In all fields but one the number of degrees awarded is expected to increase from 1975-76 to 1986-87. Three of these fields in which significant increases are expected are public affairs (17,106 to 26,690), health professions (12,556 to 22,400), and other business and management (39,890 to 64,130).

The number of master's degrees awarded in social science is projected to decrease from 16,819 to 10,400. This is the only field for which a decrease is projected.

The *Survey of 1974-75 College Graduates* indicates that underemployment was not as serious a problem for 1974-75 recipients of master's degrees as it was for bachelor's degree recipients. An estimated 85 percent were classified as not being underemployed, compared to 76 percent of bachelor's degree recipients.

Doctor's Degrees, by Field

Slight increases in doctor's degrees are expected in most fields from 1975-76 to 1986-87 (table 15). An increase of 92.6 percent is expected in computer and information sciences (244 to 470). In education, the number of degrees is expected to increase 50.0 percent, from 7,769 in 1975-76 to 11,660 in 1986-87.

Decreases are expected in 5 of the 20 major fields. Of these five fields, engineering projections show the most notable decrease–11.4 percent, from 2,821 to 2,500.

First-Professional Degrees, by Field

The number of degrees conferred in medicine nearly doubled from 1960-61 to 1975-76 (6,940 to 13,426). The number of medical degrees is expected to reach 17,690 by 1986-87, an increase of 31.8 percent. Degrees in law more than tripled from 1960-61 to 1975-76, increasing from 9,429 to 32,293. Projected increases in the number of law degrees will be small (15.8 percent) compared to past increases–reaching only 37,380 by 1986-87.

Dentistry is expected to remain at about its 1975-76 level through 1986-87, while other health professions and theology are expected to show significant increases. Theology is expected to increase 27.4 percent, from 5,706 in 1975-76 to 7,270 in 1986-87, and other health professions (optometry, chiropody or podiatry, osteopathy, and veterinary medicine) are expected to increase 42.6 percent, from 3,753 to 5,350.

Other first-professional degrees have increased significantly over the past few years as large numbers of first-professional degrees in pharmacy and chiropractic medicine have been reported. These two fields have increased so rapidly that they were treated separately for the first time in the 1975-76 edition of *Earned Degrees Conferred by Institutions of Higher Education.*[6] However, the limited data currently available makes it impossible to make trend line projections for these two fields in this report, and degrees in these two fields are included in the "other" category, which is projected to remain constant at the 1975-76 level through 1986-87.

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[6] Stanley V. Smith and Agnes Q. Wells, U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Earned Degrees Conferred by Institutions of Higher Education, 1975-76* (U.S. Government Printing Office, 1978).

Figure 4.–High school graduates: United States, 1956-57 to 1986-87

(Data from table 10)

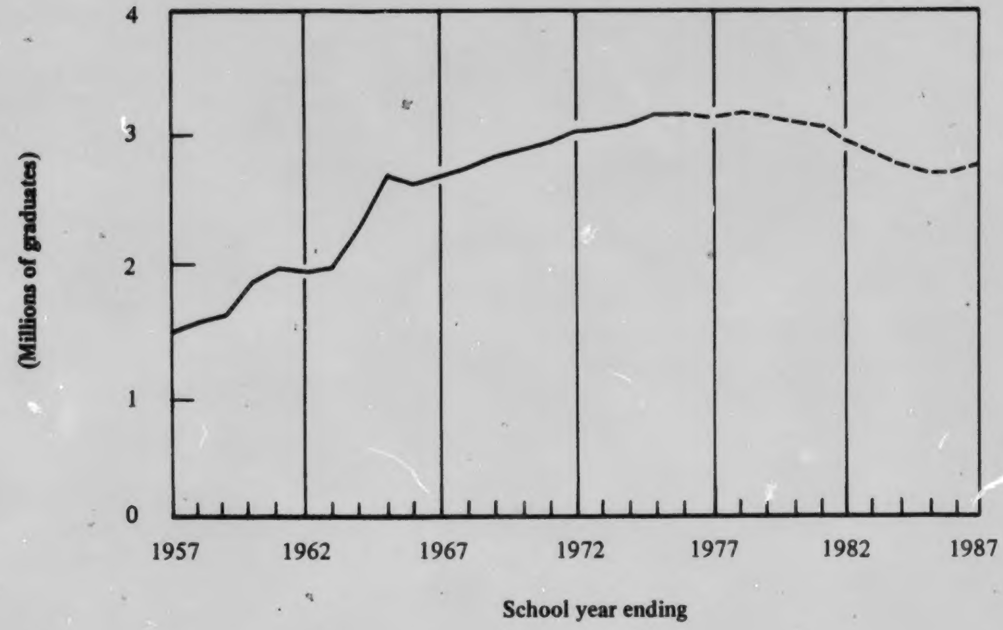

Figure 5.–Earned degrees, with intermediate alternative projections, by level: United States, 1961-62 to 1986-87

(Data from table 11)

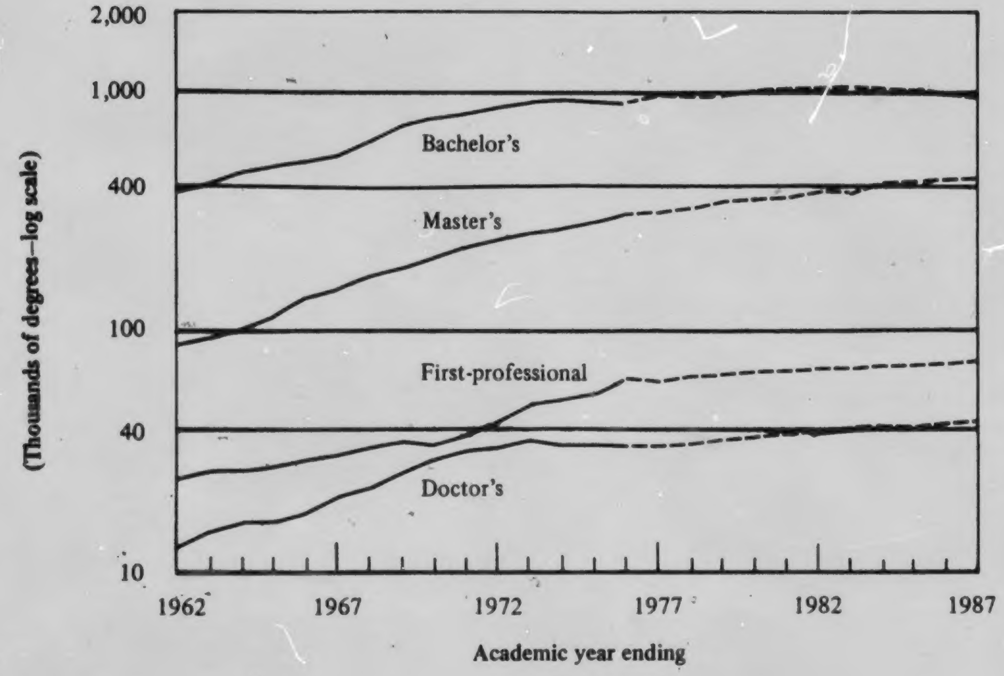

Table 10.–High school graduates, with projections, by sex of student and control of institution: United States, 1954-55 to 1986-87

[In thousands]

Year (1)	Total high school graduates[1] (2)	Sex Boys (3)	 Girls (4)	Control Public (5)	 Private (estimated) (6)
1954-55	1,351	648	703	1,208	143
1955-56	1,421	682	739	1,263	158
1956-57	1,446	696	750	1,282	164
1957-58	1,513	729	784	1,344	169
1958-59	1,639	790	849	1,447	192
1959-60	1,864	898	966	1,633	[2]231
1960-61	1,971	958	1,013	1,732	239
1961-62	1,925	941	984	1,685	[2]240
1962-63	1,950	959	991	1,717	[2]233
1963-64	2,290	1,123	1,167	2,015	[2]275
1964-65	2,665	1,314	1,351	2,366	[2]298
1965-66	2,632	1,308	1,325	2,334	[2]298
1966-67	2,679	1,332	1,348	2,381	298
1967-68	2,702	1,341	1,360	2,402	300
1968-69	2,829	1,402	1,427	2,529	300
1969-70	2,896	1,433	1,463	2,596	300
1970-71	2,944	1,457	1,487	2,644	[3]300
1971-72	3,008	1,490	1,518	2,706	[3]302
1972-73	3,043	1,503	1,540	2,737	[3]306
1973-74	3,081	1,515	1,566	2,771	[3]310
1974-75	3,140	1,545	1,595	2,830	[3]310
1975-76	3,153	1,572	1,581	2,842	[3]310
			Projected[4]		
1976-77	3,149	1,571	1,578	2,839	310
1977-78	3,160	1,578	1,582	2,850	310
1978-79	3,144	1,570	1,574	2,834	310
1979-80	3,097	1,547	1,550	2,787	310
1980-81	3,043	1,522	1,521	2,733	310
1981-82	2,944	1,463	1,481	2,634	310
1982-83	2,835	1,415	1,420	2,525	310
1983-84	2,740	1,368	1,372	2,430	310
1984-85	2,692	1,344	1,348	2,382	310
1985-86	2,694	1,345	1,349	2,384	310
1986-87	2,740	1,369	1,371	2,430	310

[1] Includes regular public and nonpublic schools, residential schools for exceptional children, subcollegiate departments of institutions of higher education, Federal schools for Indians, and federally operated schools on Federal installations. Excludes equivalency certificates. More than 99 percent of public school graduates and 97 percent of nonpublic school graduates are graduates of regular day schools.

[2] Reported data from Office of Education surveys.

[3] Estimated based on revised nonpublic secondary enrollment (table 4). These revised estimates of nonpublic high school graduates differ from figures shown in 1976 and earlier editions.

[4] The projections of public high school graduates are based on the assumption that for boys and girls separately, the number of high school graduates expressed as a percentage of the population averaging 18 years of age will remain constant at the 1975-1976 level through 1986.

The projection of nonpublic high school graduates is based on the following assumptions: (1) The number of nonpublic high school graduates will remain approximately the same throughout the projection period. (2) The percentage of boys among nonpublic high school graduates (48.1 percent in 1964-65) will remain constant to 1986-87.

For further methodological details, see appendix A, table A-2.

SOURCES: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, publications: (1) *Statistics of Public Elementary and Secondary Day Schools*, annually, fall 1964 through 1976, (2) *Statistics of State School Systems*, biennially, 1953-54 through 1959-60, (3) *Statistics of Nonpublic Elementary and Secondary Schools*, 1965-66 and 1970-71, (4) *Statistics of Public and Nonpublic Elementary and Secondary Day Schools, 1968-69*, and (5) *Nonpublic School Enrollments in Grades 9-12, Fall 1964, and Graduates, 1963-64*.

Table 11.–Earned degrees, with alternative projections, by level and sex of student: United States, 1960-61 to 1986-87

Year	Bachelor's degrees[1]			First-professional degrees[2]			Master's degrees[3]			Doctor's degrees (except first-professional)[4]		
(1)	Total (2)	Men (3)	Women (4)	Total (5)	Men (6)	Women (7)	Total (8)	Men (9)	Women (10)	Total (11)	Men (12)	Women (13)
1960-61	369,995	228,500	141,495	25,253	24,577	676	81,690	55,267	26,423	10,575	9,463	1,112
1961-62	388,680	234,671	154,009	25,607	24,836	771	88,414	59,710	28,704	11,622	10,377	1,245
1962-63	416,928	246,129	170,799	26,590	25,753	837	95,470	64,198	31,272	12,822	11,448	1,374
1963-64	466,944	270,319	196,625	27,209	26,357	852	105,551	70,339	35,212	14,490	12,955	1,535
1964-65	501,713	289,003	212,710	28,290	27,283	1,007	117,152	77,544	39,608	16,467	14,692	1,775
1965-66	520,923	299,871	221,052	30,124	28,982	1,142	140,548	93,063	47,485	18,237	16,121	2,116
1966-67	558,852	322,948	235,904	31,695	30,401	1,294	157,707	103,092	54,615	20,617	18,163	2,454
1967-68	632,758	358,105	274,653	33,939	32,402	1,537	176,749	113,519	63,230	23,089	20,183	2,906
1968-69	729,071	410,785	318,286	35,114	33,595	1,519	193,756	121,531	72,225	26,188	22,752	3,436
1969-70	792,656	451,380	341,276	34,578	32,794	1,784	208,291	125,624	82,667	29,866	25,890	3,976
1970-71	839,730	475,594	364,136	37,946	35,544	2,402	230,509	138,146	92,363	32,107	27,530	4,577
1971-72	887,273	500,590	386,683	43,411	40,723	2,688	251,633	149,550	102,083	33,363	28,090	5,273
1972-73	922,362	518,191	404,171	50,018	46,489	3,529	263,371	154,468	108,903	34,777	28,571	6,206
1973-74	945,776	527,313	418,463	53,816	48,530	5,286	277,033	157,842	119,191	33,816	27,365	6,451
1974-75	922,933	504,841	418,092	55,916	48,956	6,960	292,450	161,570	130,880	34,083	26,817	7,266
1975-76	925,746	504,925	420,821	62,649	52,892	9,757	311,771	167,248	144,523	34,064	26,267	7,797
Intermediate alternative projection[5]												
1976-77	980,000	532,000	448,000	61,800	50,300	11,500	322,200	170,900	151,300	35,300	26,800	8,500
1977-78	989,000	[6]532,000	457,000	65,400	51,500	13,900	334,100	175,000	159,100	36,200	27,200	9,000
1978-79	996,000	533,000	463,000	66,600	51,400	15,200	346,800	179,800	167,000	37,100	27,600	9,500
1979-80	1,010,000	541,000	469,000	68,000	51,700	16,300	360,100	184,000	176,100	38,000	28,000	10,000
1980-81	1,021,000	547,000	474,000	69,700	52,500	17,200	373,200	189,200	184,000	38,900	28,400	10,500
1981-82	1,026,000	550,000	476,000	70,700	52,700	18,000	386,300	193,100	193,200	39,300	28,400	10,900
1982-83	1,027,000	551,000	476,000	72,000	53,100	18,900	398,300	197,200	201,100	40,000	28,600	11,400
1983-84	1,025,000	551,000	474,000	73,000	53,300	19,700	410,200	200,700	209,500	40,700	28,700	12,000
1984-85	1,015,000	546,000	469,000	73,800	53,300	20,500	421,300	203,700	217,600	41,300	28,800	12,500
1985-86	999,000	538,000	461,000	74,500	53,300	21,200	430,600	206,200	224,400	41,800	28,800	13,000
1986-87	979,000	528,000	451,000	75,200	53,200	22,000	439,400	208,000	231,400	42,200	28,700	13,500
Low alternative projection[5]												
1976-77	980,000	532,000	448,000	61,800	50,300	11,500	318,200	170,900	147,300	34,700	26,400	8,300
1977-78	989,000	[6]532,000	457,000	65,400	51,500	13,900	325,800	175,000	150,800	34,800	26,300	8,500
1978-79	996,000	533,000	463,000	66,600	51,400	15,200	334,800	179,800	155,000	35,100	26,300	8,800
1979-80	1,010,000	541,000	469,000	67,500	51,700	15,800	343,400	184,000	159,400	35,200	26,200	9,000
1980-81	1,021,000	547,000	474,000	68,800	52,500	16,300	352,500	189,200	163,300	35,300	26,000	9,300
1981-82	1,026,000	550,000	476,000	69,200	52,600	16,600	359,700	193,100	166,600	35,000	25,500	9,500
1982-83	1,027,000	551,000	476,000	70,100	53,000	17,100	367,300	197,200	170,100	34,900	25,200	9,700
1983-84	1,025,000	551,000	474,000	70,600	53,200	17,400	373,800	200,700	173,100	34,500	24,600	9,900
1984-85	1,015,000	546,000	469,000	71,000	53,200	17,800	379,600	203,700	175,900	34,200	24,100	10,100
1985-86	999,000	538,000	461,000	71,200	53,100	18,100	384,300	206,200	178,100	33,800	23,500	10,300
1986-87	979,000	528,000	451,000	71,400	53,000	18,400	387,800	208,000	179,800	33,300	22,800	10,500

High alternative projection[5]

1976-77	980,000	532,000	448,000	61,800	50,300	11,500	325,500	170,900	154,600	36,100	27,300	8,800
1977-78	989,000	[6]532,000	457,000	65,400	51,500	13,900	341,600	175,000	166,600	37,400	28,000	9,400
1978-79	996,000	533,000	463,000	66,600	51,400	15,200	358,700	179,800	178,900	39,000	28,900	10,100
1979-80	1,010,000	541,000	469,000	68,400	51,700	16,700	376,800	184,000	192,800	40,700	29,800	10,900
1980-81	1,021,000	547,000	474,000	70,600	52,500	18,100	394,900	189,200	205,700	42,400	30,700	11,700
1981-82	1,026,000	550,000	476,000	72,100	52,800	19,300	412,200	193,100	219,100	43,700	31,300	12,400
1982-83	1,027,000	551,000	476,000	73,900	53,200	20,700	429,300	197,200	232,100	45,200	32,000	13,200
1983-84	1,025,000	551,000	474,000	75,300	53,400	21,900	446,500	200,700	245,800	46,700	32,700	14,000
1984-85	1,015,000	546,000	469,000	76,600	53,400	23,200	462,100	203,700	258,400	48,200	33,400	14,800
1985-86	999,000	538,000	461,000	77,800	53,500	24,300	477,800	206,200	271,600	49,700	34,000	15,700
1986-87	979,000	528,000	451,000	78,900	53,400	25,500	491,000	208,000	283,000	51,000	34,500	16,500

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[1] In the 1971 and prior editions of *Projections of Education Statistics*, bachelor's degrees were not shown separately but were combined with first-professional degrees.

[2] The following degrees are reported as first-professional: dentistry (D.D.S. or D.M.D.), law (LL.B. or J.D.), medicine (M.D.), theology, veterinary medicine (D.V.M.), chiropody or podiatry (D.S.C. or D.P.), optometry (O.D.), and osteopathy (D.O.). For the years prior to 1970-71, all degrees in categories other than those listed above that were reported as first-professional degrees were included with bachelor's degrees. For the years 1970-71 to 1973-74 about 300 to 400 "other" first professional degrees were reported. In 1975-76 the number jumped to 1,082 and in 1975-76 to 2,046 because of degrees in pharmacy and chiropractic medicine that were included in the "other" category.

[3] Master's degrees differ from those published in the 1968 and prior editions of *Projections of Educational Statistics* because of adjustments to secure comparability with current reports of these degrees. For estimation details, see appendix A, "Estimation Methods." Master's degrees also differ from those published in the 1969 through 1971 editions because of discrepancies among the reported numbers of degrees.

[4] Doctor's degrees include the Ph.D. in any field as well as such degrees as doctor of education, doctor of juridical science, and doctor of public health (preceded by a professional degree in medicine or sanitary engineering). They exclude degrees defined as first-professional, such as doctor of veterinary medicine.

[5] The projection of degrees by level and sex of student is based on the following assumptions:

(a) The projections of bachelor's degrees by sex for 1976-77 and 1977-78 are based on fall 1975 and 1976 reported upper-division enrollments (for details see appendix A, table A-2). Projections for 1978-79 through 1986-87 are based on the assumption that the average of the 1976-77 and 1977-78 bachelor's degrees expressed as percentages of the composite population will remain constant through 1986-87.

(b) The projections of total first-professional degrees were obtained by summing the projections of degrees in the individual fields. (For methods of projecting first-professional degrees in the individual fields, see the footnotes to table 16). The projections of first-professional degrees by sex are based on the assumption that the percentage of degrees conferred on women in each field of study will follow the 1960-61 to 1979-80 trend through 1986-87. Projections for each field for 1976-77 through 1979-80 are based on the assumption that the percentage of women enrolled in the first-year of the first-professional degree program will equal the percentage of women graduating in the field 3 or 4 years later. For law, theology, and "other" a 3-year time lag was used. For medicine, dentistry, and "other health professions," a 4-year time lag was used.

(c) Intermediate alternative projections of master's degrees by sex are based on the assumption that master's degrees, expressed as a percentage of the composite population, will equal the average of the projected 1960-61 to 1976-76 trend values (high alternative) and the 1975-76 percentage (low alternative).

(d) Intermediate alternative projections of doctor's degrees by sex are based on the assumption that doctor's degrees, expressed as a percentage of the composite population, will equal the average of the projected 1960-61 to 1975-76 trend values (low alternative for men, high alternative for women) and the 1976-76 percentage (high alternative for men, low alternative for women).

(e) A separate composite population, based on the age-distribution of degree-recipients, was used for projections of bachelor's, master's, and doctor's degrees by sex. For populations used see appendix B, table B-3. For estimation methods, see the footnotes to table B-3.

[6] Projections have been smoothed between 1976-77 and 1978-79 projections.

For further methodological details, see appendix A, table A-2.

NOTE.–Data include 50 States and the District of Columbia for all years. Because of rounding, details may not add to totals.

SOURCES: Degree and enrollment data and estimates are based on U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, publications: (a) *Earned Degrees Conferred by Institutions of Higher Education*, 1960-61 through 1975-76, (b) *Upper Division Enrollment by Degree Field*, fall 1975 and 1976, and (c) *Students Enrolled for Advanced Degrees*, fall 1973 through 1976.

Table 12.–Percentage distribution of earned degrees, by field of study and level: United States, 1964-65 to 1986-87

Year (1)	A. Social sciences: Total social sciences (2)	Social science (3)	Psychology (4)	Public affairs and services (5)	Library science (6)	B. Humanities: Total humanities (7)	Architecture and environmental design (8)	Fine and applied arts (9)	Foreign language (10)	Communications (11)	Letters (12)
Bachelor's											
1964-65	19.8	16.4	2.9	0.4	0.1	16.0	0.5	3.5	2.8	0.6	8.7
1975-76	23.1	14.0	5.4	3.6	0.1	15.1	1.0	4.6	1.7	2.3	5.6
1986-87	22.8	12.6	5.4	4.7	0.1	13.8	1.2	5.6	1.2	3.1	2.7
Master's											
1964-65	16.0	8.2	1.9	3.1	2.7	12.1	0.3	3.6	2.3	0.3	5.6
1975-76	16.0	5.4	2.5	5.5	2.6	9.6	1.0	2.8	1.1	1.0	3.6
1986-87	13.8	2.4	3.1	6.1	2.2	9.2	1.4	2.6	0.9	1.5	2.7
Doctor's											
1964-65	16.9	11.2	5.1	0.5	0.1	11.2	0.1	2.6	2.3	0.1	6.2
1975-76	21.5	12.7	7.6	0.9	0.2	12.4	0.2	1.8	2.5	0.6	7.2
1986-87	22.9	13.3	8.3	1.0	0.2	11.8	0.4	1.4	2.8	0.9	6.4

Year	C. Natural sciences and miscellaneous fields											
	Total natural sciences and miscellaneous fields	Mathematics and statistics	Computer and information sciences	Engineering	Physical sciences	Biological sciences	Agriculture and natural resources	Health professions	Accounting	Business and management	Education	Other
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
						Bachelor's						
1964-65	64.2	3.9	([1])	7.7	3.6	5.0	1.5	3.1	3.0	9.6	23.2	3.8
1975-76	61.8	1.7	0.6	5.0	2.3	5.9	2.1	5.8	3.9	11.6	16.7	6.2
1986-87	63.4	1.5	1.2	7.0	2.2	7.0	2.2	7.8	4.1	11.8	11.9	6.6
						Master's						
1964-65	71.9	3.6	0.1	10.3	4.2	3.1	1.4	2.1	0.5	6.0	37.0	3.5
1975-76	74.4	1.2	0.8	5.2	1.8	2.1	1.1	4.0	0.9	12.8	41.0	3.4
1986-87	77.0	1.0	1.5	3.7	1.3	1.8	1.0	5.1	0.9	14.6	42.8	3.4
						Doctor's						
1964-65	71.9	4.1	([1])	13.0	17.2	11.7	4.0	1.0	0.2	1.8	16.3	2.6
1975-76	66.1	2.5	0.7	8.3	10.1	10.0	2.7	1.7	0.2	2.6	22.8	4.6
1986-87	65.3	2.0	1.1	5.9	7.8	8.3	1.9	2.1	0.1	3.1	27.6	5.2

[1] Less than 0.05.

NOTE.–Data are for 50 States and the District of Columbia for all years. Because of rounding, details may not add to totals.

Table 13.–Earned bachelor's degrees, with projections, by field of study: United States, 1960-61 to 1986-87[1]

Year (1)	A. Social sciences: Total social sciences (2)	Social science (3)	Psychology (4)	Public affairs and services (5)	Library sciences (6)	B. Humanities: Total humanities (7)	Architecture and environmental design (8)	Fine and applied arts (9)	Foreign languages (10)	Communications (11)	Letters (12)
1960-61	60,163	50,271	8,460	993	439	50,302	1,674	12,949	6,364	2,160	27,155
1961-62	66,532	55,454	9,578	1,077	423	55,414	1,774	13,609	7,906	2,174	29,951
1962-63	76,025	63,259	10,993	1,311	462	62,592	2,028	14,515	9,707	2,263	34,079
1963-64	90,144	74,930	13,258	1,446	510	72,965	2,059	16,159	12,160	2,560	40,027
1964-65	99,240	82,224	14,527	1,866	623	80,197	2,333	17,391	13,859	2,814	43,800
1965-66	110,723	91,198	16,841	2,042	642	87,017	2,663	18,679	15,186	3,131	47,358
1966-67	124,414	102,132	19,303	2,278	701	96,074	2,937	21,548	16,706	3,519	51,[illegible]64
1967-68	145,902	118,426	23,768	2,894	814	110,344	3,262	25,521	19,128	4,363	58,070
1968-69	172,616	138,478	29,295	3,843	1,000	127,905	3,477	31,588	21,493	5,197	66,150
1969-70	190,395	151,391	33,536	4,414	1,054	134,675	4,105	35,901	20,895	5,959	67,815
1970-71	205,931	157,818	37,880	9,220	1,013	139,833	5,570	30,394	19,945	10,802	73,122
1971-72	217,768	161,081	43,093	12,605	989	144,713	6,440	33,831	18,849	12,340	73,253
1972-73	226,131	159,434	47,695	17,843	1,159	147,220	6,962	36,017	18,964	14,317	70,960
1973-74	230,954	154,019	51,821	23,950	1,164	148,445	7,822	39,730	18,840	17,096	64,957
1974-75	218,926	138,709	50,988	28,160	1,069	143,439	8,226	40,782	17,606	19,248	57,577
1975-76	213,853	129,864	49,908	33,238	843	139,552	9,146	42,138	15,471	21,282	51,515
						Projected[2]					
1976-77	225,030	135,230	52,620	36,280	900	146,060	9,770	45,360	15,840	23,210	51,880
1977-78	224,270	133,270	52,670	37,410	920	144,960	9,880	46,460	15,440	23,800	49,380
1978-79	225,190	132,550	52,980	38,730	930	144,740	10,130	47,720	15,120	24,670	47,100
1979-80	227,830	132,930	53,600	40,360	940	145,190	10,450	49,290	14,780	25,700	44,970
1980-81	230,470	133,340	54,260	41,910	960	145,820	10,760	50,870	14,540	26,760	42,890
1981-82	231,810	133,000	54,600	43,250	960	145,660	11,060	52,170	14,260	27,720	40,450
1982-83	232,300	132,240	54,750	44,340	970	144,970	11,320	53,290	13,930	28,530	37,900
1983-84	232,200	131,180	54,740	45,310	970	143,860	11,510	54,260	13,590	29,280	35,220
1984-85	230,380	129,180	54,340	45,890	970	141,700	11,660	54,830	13,170	29,790	32,250
1985-86	227,120	126,430	53,610	46,120	960	138,790	11,680	55,090	12,670	30,160	29,190
1986-87	223,130	123,350	52,680	46,160	940	135,240	11,690	55,070	12,180	30,300	26,000

Year	C. Natural sciences and miscellaneous fields											
	Total natural sciences and miscellaneous fields	Mathematics and statistics	Computer and information sciences	Engineering[3]	Physical sciences	Biological sciences	Agriculture and natural resources	Health professions	Accounting	Business and management	Education	Other[4]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1960-61	259,530	13,097	–	37,528	15,452	15,861	6,260	12,863	10,580	40,453	91,187	16,249
1961-62	266,734	14,570	–	36,070	15,851	16,694	6,546	12,973	11,353	40,786	95,983	15,908
1962-63	278,311	16,078	–	34,972	16,217	18,849	6,748	13,944	11,880	42,156	100,909	16,558
1963-64	303,835	18,624	–	37,014	17,457	22,454	6,947	13,421	13,675	45,523	110,559	18,161
1964-65	322,276	19,460	87	38,514	17,859	24,872	7,377	15,444	14,886	48,169	116,529	19,079
1965-66	323,183	19,977	89	37,972	17,129	26,565	7,863	15,848	14,903	48,736	115,173	18,928
1966-67	338,364	21,207	222	38,693	17,739	28,483	8,636	16,541	15,593	54,418	117,482	19,350
1967-68	376,512	23,513	459	40,541	19,380	31,429	9,215	18,170	17,922	62,670	132,087	21,126
1968-69	428,550	27,209	933	45,517	21,480	34,989	10,965	20,230	20,032	74,501	148,554	24,140
1969-70	467,586	27,442	1,544	49,678	21,439	37,031	12,382	22,181	21,183	84,871	161,904	27,931
1970-71	493,966	24,801	2,388	50,046	21,412	35,743	12,672	25,226	22,099	93,428	176,571	29,580
1971-72	524,792	23,713	3,402	51,164	20,745	37,293	13,516	28,611	24,801	97,208	191,172	33,167
1972-73	549,011	23,067	4,304	51,265	20,696	42,233	14,756	33,564	27,947	98,883	194,210	38,086
1973-74	566,377	21,635	4,756	50,286	21,178	48,340	16,253	41,459	29,341	103,043	185,181	44,905
1974-75	560,568	18,181	5,033	46,852	20,778	51,741	17,528	49,090	31,116	102,706	166,969	50,574
1975-76	572,341	15,984	5,652	46,331	21,465	54,275	19,402	53,958	35,806	107,630	154,758	57,080
	Projected[2]											
1976-77	608,910	16,650	6,510	53,620	22,500	58,520	20,500	59,320	38,200	113,290	159,430	60,370
1977-78	619,770	16,430	7,020	62,560	22,180	59,640	20,350	61,970	40,490	112,390	156,320	60,420
1978-79	626,070	16,240	7,580	66,750	22,180	61,310	20,500	64,520	40,390	112,980	153,050	60,570
1979-80	636,980	16,230	8,270	71,060	22,430	63,370	20,930	67,140	41,390	114,890	150,300	60,970
1980-81	644,710	16,270	8,920	71,720	22,650	65,380	21,290	69,830	41,840	116,720	147,560	62,530
1981-82	648,530	16,160	9,570	71,990	22,750	66,950	21,540	72,030	42,040	117,910	143,880	63,710
1982-83	649,730	16,090	10,150	72,000	22,770	68,200	21,710	73,900	42,100	118,640	139,650	64,520
1983-84	648,940	15,930	10,750	71,870	22,730	69,120	21,880	75,440	42,050	119,150	134,870	65,150
1984-85	642,920	15,600	11,200	71,110	22,510	69,440	21,770	76,380	41,680	118,690	129,320	65,220
1985-86	633,090	15,230	11,630	69,960	22,160	69,230	21,580	76,820	41,060	117,540	122,990	64,890
1986-87	620,630	14,800	11,950	68,560	21,730	68,660	21,360	76,790	40,290	115,950	116,340	64,200

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[1] The classification of earned degrees into fields shown in this table differs from that used in 1971 and earlier editions of the publication. The present classification of earned degrees by field of study is consistent with that shown in *A Taxonomy of Instructional Programs in Higher Education.* To obtain the distribution of degrees by field for the years prior to 1970-71, earned degrees were redistributed to conform to the new taxonomy as well as possible. For a complete listing of the instructional programs included in each field, see appendix A, "Classification of Degrees by Field of Study."

[2] The projections (consistent with the intermediate alternative projections in table 11) are based mainly on the assumption that the percentage distribution of degrees by field for each sex will continue the 1960-61 to 1975-76 trends through 1985-86 or else remain at approximately the 1975-76 rates through 1986-87. The following are exceptions to the above assumptions: (a) In engineering, data on engineering enrollment from the Engineering Manpower Commission of Engineers Joint Council were used in making projections. (b) In accounting, the 1976-77 through 1979-80 projections are based on projections from the American Institute of Certified Public Accountants.

[3] Includes engineering technology degrees. Engineering technology degrees reported at 7,943 in 1975-76 are expected to number 8,690, 8,580, 9,350, 9,870, 10,310, 10,700, 11,040, 11,380, 11,600, 11,750 and 11,900 from 1976-77 through 1986-87.

[4] Includes home economics, law, military science, theology, and interdisciplinary studies.

NOTE.–Data are for 50 States and the District of Columbia for all years. Because of rounding, details may not add to totals.

SOURCES: (1) U.S. Department of Health, Education, and Welfare, National Center for Education Statistics publications: (a) *Earned Degrees Conferred by Institutions of Higher Education,* annually, 1960-61 through 1975-76; (b) *A Taxonomy of Instructional Programs in Higher Education*; (2) Engineering Manpower Commission of Engineers Joint Council publication: *Engineering and Technology Enrollments Fall 1976*; and (3) American Institute of Certified Public Accountant publication: *The Supply of Accounting Graduates and the Demand for Public Accounting Recruits, Spring 1977.*

Table 14.–Earned master's degrees, with projection, by field of study: United States, 1960-61 to 1986-87[1]

Year	A. Social sciences					B. Humanities					
Year (1)	Total social sciences (2)	Social science (3)	Psy-chology (4)	Public affairs and services (5)	Library sciences (6)	Total humani-ties (7)	Architec-ture and environ-mental design (8)	Fine and applied arts (9)	Foreign languages (10)	Communi-cations (11)	Letters (12)
1960-61	11,758	5,717	1,719	2,391	1,931	8,730	378	2,910	1,274	255	3,913
1961-62	13,023	6,561	1,832	2,490	2,140	9,574	311	3,151	1,480	251	4,381
1962-63	14,725	7,619	1,918	2,825	2,363	10,804	356	3,363	1,849	288	4,948
1963-64	16,546	8,519	2,059	3,251	2,717	12,166	383	3,673	2,196	364	5,550
1964-65	18,696	9,619	2,187	3,679	3,211	14,203	373	4,244	2,690	384	6,512
1965-66	22,541	11,616	2,423	4,586	3,916	17,667	702	5,019	3,393	523	8,030
1966-67	25,919	13,676	2,898	4,856	4,489	20,648	812	5,812	4,017	649	9,358
1967-68	28,598	14,644	3,237	5,552	5,165	22,966	1,021	6,563	4,511	730	10,141
1968-69	32,169	16,514	3,736	5,987	5,932	25,256	1,143	7,413	4,691	785	11,224
1969-70	33,878	16,659	3,953	6,755	6,511	26,305	1,427	7,849	4,803	862	11,364
1970-71	37,200	17,508	4,431	8,260	7,001	27,701	1,705	6,675	4,755	1,856	12,710
1971-72	40,454	18,417	5,289	9,365	7,383	28,975	1,899	7,537	4,616	2,200	12,723
1972-73	42,858	18,341	5,831	10,990	7,696	28,605	2,307	7,254	4,289	2,406	12,349
1973-74	45,591	18,409	6.588	12,460	8,134	29,433	2,702	8,001	3,964	2,640	12,126
1974-75	48,514	18,058	7,066	15,299	8,091	29,762	2,938	8,362	3,807	2,794	11,861
1975-76	49,773	16,819	7,811	17,106	8,037	29,982	3,215	8,817	3,531	3,126	11,293
						Projected[2]					
1976-77	50,870	16,630	8,140	17,870	8,230	30,710	3,420	9,000	3,530	3,410	11,350
1977-78	52,020	16,260	8,610	18,710	8,440	31,620	3,650	9,270	3,570	3,680	11,450
1978-79	53,300	15,910	9,110	19,620	8,660	32,680	3,940	9,540	3,600	4,000	11,600
1979-80	54,600	15,480	9,640	20,560	8,920	33,760	4,180	9,840	3,670	4,320	11,750
1980-81	55,830	15,020	10,190	21,520	9,100	34,820	4,490	10,120	3,700	4,670	11,840
1981-82	57,000	14,460	10,800	22,460	9,280	35,920	4,750	10,430	3,760	5,030	11,950
1982-83	57,960	13,810	11,360	23,380	9,410	36,900	5,050	10,670	3,810	5,370	12,000
1983-84	58,880	13,100	11,950	24,290	9,540	37,930	5,320	10,940	3,860	5,740	12,070
1984-85	59,570	12,250	12,540	25,160	9,620	38,860	5,620	11,170	3,870	6,110	12,090
1985-86	60,090	11,370	13,110	25,940	9,670	39,640	5,860	11,380	3,880	6,460	12,060
1986-87	60,430	10,400	13,660	26,690	9,680	40,450	6,150	11,560	3,930	6,810	12,000

Year	C. Natural sciences and miscellaneous fields											
(1)	Total natural sciences and miscellaneous fields (2)	Mathematics and statistics (3)	Computer and information sciences (4)	Engineering (5)	Physical sciences (6)	Biological sciences (7)	Agriculture and natural resources (8)	Health professions (9)	Accounting (10)	Business and management (11)	Education (12)	Other[3] (13)
1960-61	61,202	2,235	-	8,214	3,786	2,358	1,550	1,632	447	4,328	33,658	2,994
1961-62	65,817	2,680	-	8,953	3,913	2,642	1,721	1,632	511	4,890	35,728	3,147
1962-63	69,941	3,320	-	9,666	4,115	2,921	1,601	2,011	499	5,439	37,276	3,093
1963-64	76,839	3,625	-	10,857	4,555	3,296	1,682	2,279	530	5,983	40,376	3,656
1964-65	84,253	4,196	146	12,093	4,906	3,600	1,695	2,494	617	7,073	43,323	4,110
1965-66	100,340	4,769	238	13,717	4,977	4,233	2,034	2,833	862	12,280	49,905	4,492
1966-67	111,140	5,278	449	13,986	5,405	4,996	2,119	3,436	1,024	14,086	55,155	5,206
1967-68	125,185	5,527	548	15,247	5,499	5,506	2,234	3,736	1,137	16,964	62,927	5,860
1968-69	136,331	5,713	1,012	15,372	5,895	5,743	2,496	4,065	1,333	18,279	70,231	6,192
1969-70	148,108	5,636	1,459	15,723	5,935	5,800	2,197	4,488	1,083	20,516	78,275	6,996
1970-71	165,608	5,191	1,588	16,443	6,367	5,728	2,457	5,749	1,097	25,447	88,716	6,825
1971-72	182,204	5,198	1,977	16,960	6,287	6,101	2,680	7,207	1,377	29,056	97,880	7,481
1972-73	191,908	5,028	2,113	16,619	6,257	6,263	2,807	8,362	1,621	29,545	105,242	8,051
1973-74	202,009	4,834	2,276	15,379	6,062	6,552	2,928	9,599	1,798	30,955	112,252	9,374
1974-75	214,174	4,327	2,299	15,348	5,807	6,550	3,067	10,692	2,227	34,137	119,778	9,942
1975-76	232,016	3,857	2,603	16,342	5,466	6,582	3,340	12,556	2,730	39,890	127,948	10,702
						Projected[2]						
1976-77	240,620	3,890	2,920	16,250	5,450	6,700	3,400	13,250	2,830	42,250	132,650	11,030
1977-78	250,460	3,970	3,240	16,230	5,470	6,850	3,490	14,080	2,910	44,720	138,090	11,410
1978-79	260,820	4,000	3,580	16,280	5,480	7,030	3,580	14,920	3,020	47,300	143,800	11,830
1979-80	271,740	4,070	3,960	16,290	5,510	7,180	3,690	15,840	3,130	49,780	150,040	12,250
1980-81	282,550	4,140	4,330	16,410	5,550	7,350	3,790	16,750	3,240	52,400	155,910	12,680
1981-82	293,380	4,180	4,730	16,400	5,560	7,500	3,880	17,760	3,350	54,720	162,180	13,120
1982-83	303,440	4,230	5,120	16,430	5,580	7,680	3,970	18,690	3,460	57,010	167,760	13,510
1983-84	313,390	4,220	5,510	16,440	5,590	7,810	4,040	19,660	3,560	59,110	173,550	13,900
1984-85	322,870	4,240	5,920	16,410	5,570	7,940	4,130	20,640	3,660	61,030	179,060	14,270
1985-86	330,870	4,220	6,320	16,350	5,570	8,040	4,190	21,510	3,760	62,690	183,640	14,580
1986-87	338,520	4,210	6,700	16,260	5,520	8,120	4,260	22,400	3,830	64,130	188,220	14,870

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[1] The classification of earned degrees into fields shown in this table differs from that used in 1971 and earlier editions of the publication. The present classification of earned degrees by field of study is consistent with that shown in *A Taxonomy of Instructional Programs in Higher Education*. To obtain the distribution of degrees by field for the years prior to 1970-71, earned degrees were redistributed to conform to the new taxonomy as well as possible. For a complete listing of the instructional programs included in each field, see appendix A, "Classification of Degrees by Field of Study."

[2] The projections (consistent with the intermediate alternative projections in table 11) are based mainly on the assumption that the percentage distribution of degrees by field for each sex will either continue the 1960-61 to 1975-76 trends through 1986-87 or remain at approximately the 1975-76 rate through 1985-86. For methodological details, see appendix A, table A-2.

[3] Includes home economics, law, military science, theology, and interdisciplinary studies.

NOTE.–Data are for 50 States and the District of Columbia for all years. Because of rounding, details may not add to totals.

SOURCES: Degree data and estimates are based on U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, publications: (1) *Earned Degrees Conferred by Institutions of Higher Education*, 1960-61 through 1975-76, and (2) *A Taxonomy of Instructional Programs in Higher Education*.

Table 15.–Earned doctor's degrees (except first-professional), with projections, by field of study: United States, 1960-61 to 1986-87[1]

Year	A. Social sciences					B. Humanities					
	Total social sciences	Social science	Psychology	Public affairs and services	Library sciences	Total humanities	Architecture and environmental design	Fine and applied arts	Foreign languages	Communications	Letters
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1960-61	2,007	1,232	703	58	14	1,236	3	303	232	8	690
1961-62	2,097	1,245	781	61	10	1,275	1	311	228	7	728
1962-63	2,347	1,417	844	69	17	1,402	3	379	237	11	772
1963-64	2,677	1,659	939	66	13	1,623	3	422	326	14	858
1964-65	2,776	1,846	839	79	12	1,848	10	428	376	17	1,017
1965-66	3,129	1,980	1,037	93	19	2,061	12	476	428	15	1,130
1966-67	3,641	2,329	1,190	106	16	2,362	18	504	505	23	1,312
1967-68	4,004	2,640	1,232	110	22	2,779	15	528	610	32	1,594
1968-69	4,599	2,953	1,508	121	17	3,124	32	684	659	22	1,727
1969-70	5,383	3,592	1,620	131	40	3,476	35	734	760	17	1,930
1970-71	5,802	3,803	1,782	178	39	3,999	36	621	781	145	2,416
1971-72	6,389	4,233	1,881	211	64	4,163	50	572	841	111	2,589
1972-73	6,640	4,230	2,089	219	102	4,558	58	616	991	139	2,754
1973-74	6,752	4,126	2,336	230	60	4,385	69	585	923	175	2,633
1974-75	6,992	4,209	2,442	285	56	4,238	69	649	857	165	2,498
1975-76	7,313	4,342	2,581	319	71	4,217	82	620	864	204	2,447
						Projected[2]					
1976-77	7,650	4,520	2,710	340	80	4,370	90	620	910	220	2,530
1977-78	7,880	4,650	2,800	350	80	4,450	100	620	940	230	2,560
1978-79	8,140	4,800	2,900	360	80	4,540	100	620	970	250	2,600
1979-80	8,370	4,930	2,990	370	80	4,630	110	630	990	270	2,630
1980-81	8,620	5,070	3,080	390	80	4,700	110	620	1,030	280	2,660
1981-82	8,750	5,140	3,140	390	80	4,740	120	620	1,050	300	2,650
1982-83	8,970	5,250	3,220	410	90	4,780	120	610	1,070	310	2,670
1983-84	9,170	5,370	3,300	410	90	4,850	120	620	1,100	320	2,690
1984-85	9,340	5,460	3,370	420	90	4,920	140	620	1,120	340	2,700
1985-86	9,490	5,540	3,430	430	90	4,950	140	610	1,140	360	2,700
1986-87	9,650	5,630	3,490	440	90	4,990	150	610	1,170	360	2,700

Year (1)	C. Natural sciences and miscellaneous fields											
	Total natural sciences and miscellaneous fields (2)	Mathematics and statistics (3)	Computer and information sciences (4)	Engineering (5)	Physical sciences (6)	Biological sciences (7)	Agriculture and natural resources (8)	Health professions (9)	Accounting (10)	Business and management (11)	Education (12)	Other[3] (13)
1960-61	7,332	344	-	959	1,991	1,193	557	133	15	165	1,710	265
1961-62	8,250	396	-	1,216	2,122	1,338	576	148	27	205	1,867	355
1962-63	9,073	490	-	1,385	2,380	1,455	552	157	23	235	2,056	340
1963-64	10,190	596	-	1,705	2,455	1,625	668	192	21	260	2,330	338
1964-65	11,843	682	6	2,133	2,829	1,928	657	173	32	297	2,682	424
1965-66	13,047	782	19	2,315	3,045	2,097	716	251	34	368	3,034	386
1966-67	14,614	832	38	2,619	3,462	2,255	771	250	43	411	3,526	407
1967-68	16,306	947	36	2,933	3,593	2,784	800	243	33	427	4,076	434
1968-69	18,465	1,097	64	3,391	3,859	3,051	886	283	40	506	4,793	495
1969-70	21,007	1,236	107	3,691	4,312	3,289	1,004	357	56	566	5,830	559
1970-71	22,306	1,199	128	3,638	4,390	3,645	1,086	466	61	749	6,398	546
1971-72	22,811	1,128	167	3,671	4,103	3,653	971	442	51	851	7,041	733
1972-73	23,579	1,068	196	3,492	4,006	3,636	1,059	646	83	849	7,314	1,230
1973-74	22,679	1,031	198	3,312	3,626	3,439	930	578	70	913	7,293	1,289
1974-75	22,853	975	213	3,108	3,626	3,384	991	618	60	951	7,443	1,484
1975-76	22,534	856	244	2,821	3,431	3,392	928	577	55	901	7,769	1,560
						Projected[2]						
1976-77	23,280	860	280	2,810	3,450	3,460	920	610	60	950	8,230	1,650
1977-78	23,870	860	330	2,800	3,450	3,490	920	640	60	980	8,610	1,730
1978-79	24,420	870	350	2,770	3,450	3,520	900	670	60	1,030	9,000	1,800
1979-80	25,000	870	390	2,750	3,470	3,550	900	690	60	1,070	9,370	1,880
1980-81	25,580	870	410	2,740	3,470	3,580	900	730	60	1,110	9,760	1,950
1981-82	25,810	860	420	2,690	3,420	3,560	880	760	60	1,140	10,020	2,000
1982-83	26,250	870	440	2,650	3,410	3,570	870	780	60	1,180	10,370	2,050
1983-84	26,680	860	450	2,620	3,400	3,560	860	820	60	1,210	10,740	2,100
1984-85	27,040	860	470	2,580	3,380	3,570	840	850	60	1,240	11,050	2,140
1985-86	27,360	850	470	2,550	3,350	3,550	830	880	60	1,270	11,370	2,180
1986-87	27,560	840	470	2,500	3,300	3,520	820	900	60	1,290	11,660	2,200

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[1] The classification of earned degrees into fields shown in this table differs from that used in 1971 and earlier editions of the publication. The present classification of earned degrees by field of study is consistent with that shown in *A Taxonomy of Instructional Programs in Higher Education*. To obtain the distribution of degrees by field for the back years, the earned degrees were redistributed to conform to the new taxonomy as well as possible. For a complete listing of the instructional programs included in each field, see appendix A, "Classification of Degrees by Field of Study."

[2] The projections (consistent with the intermediate alternative projections in table 11) are based mainly on the assumption that the percentage distribution of degrees by field for each sex will either continue the 1960-61 to 1975-76 trends through 1986-87 or remain at approximately the 1976-76 rate through 1986-87. For methodological details, see appendix A, table A-2.

[3] Includes home economics, law, military science, theology, and interdisciplinary studies.

NOTE.—Data are for 50 States and the District of Columbia for all years. Because of rounding, details may not add to totals.

SOURCES: Degree data and estimates are based on U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, publications: (1) *Earned Degrees Conferred by Institutions of Higher Education*, 1960-61 through 1975-76, and (2) *A Taxonomy of Instructional Programs in Higher Education*.

Table 16.–Earned first-professional degrees, with projections, by field of study: United States, 1960-61 to 1986-87

Year (1)	Total (2)	Medicine[1] (3)	Dentistry[2] (4)	Other health professions[3] (5)	Law[4] (6)	Theology[5] (7)	Other[6] (8)
1960-61	25,253	6,940	3,265	1,764	9,429	3,855	...
1961-62	25,607	7,138	3,183	1,599	9,364	4,323	...
1962-63	26,590	7,231	3,169	1,691	9,884	4,615	...
1963-64	27,209	7,303	3,180	1,624	10,679	4,423	...
1964-65	28,290	7,304	3,108	1,794	11,583	4,501	...
1965-66	30,124	7,673	3,247	1,834	13,246	4,124	...
1966-67	31,695	7,723	3,341	2,003	14,663	3,965	...
1967-68	33,939	7,944	3,422	2,153	16,454	3,966	...
1968-69	35,114	8,025	3,408	2,290	17,053	4,338	...
1969-70	34,578	8,314	3,718	2,332	14,916	5,298	...
1970-71	37,946	8,919	3,745	2,495	17,421	5,055	311
1971-72	43,411	9,253	3,862	2,680	21,764	5,568	284
1972-73	50,018	10,307	4,047	2,871	27,205	5,283	305
1973-74	53,816	11,356	4,440	3,231	29,326	5,041	422
1974-75	55,916	12,447	4,773	3,223	29,296	5,095	1,082
1975-76	62,649	13,426	5,425	3,753	32,293	5,706	2,046
Projected[7]							
1976-77	61,800	13,440	5,160	3,860	31,920	5,370	2,050
1977-78	65,400	14,210	5,110	3,990	33,580	6,460	2,050
1978-79	66,600	14,630	5,310	4,160	33,830	6,620	2,050
1979-80	68,000	15,310	5,210	4,410	34,310	6,710	2,050
1980-81	69,700	16,150	5,380	4,580	34,750	6,790	2,050
1981-82	70,700	16,410	5,460	4,740	35,170	6,870	2,050
1982-83	72,000	17,020	5,460	4,910	35,610	6,950	2,050
1983-84	73,000	17,410	5,460	4,980	36,070	7,030	2,050
1984-85	73,800	17,520	5,460	5,130	36,530	7,110	2,050
1985-86	74,500	17,620	5,460	5,240	36,940	7,190	2,050
1986-87	75,200	17,690	5,460	5,350	37,380	7,270	2,050

[1] M.D. degrees only.

[2] D.D.S. or D.M.D. degrees.

[3] Includes degrees in chiropody or podiatry, optometry, osteopathy, and veterinary medicine.

[4] L.L.B. or J.D. degrees.

[5] B.D., M. Div., Rabbi or the first professional degree in theology.

[6] In 1974-75 large numbers of first-professional degrees in chiropractic (D.C. or D.C.M.) and pharmacy (D. Phar.) were reported in "other." Beginning in 1975-76 degrees in these two fields were reported separately. Not enough information is currently available for these two fields to make trend line projections. Therefore they are included in "other," and it was assumed that the number of degrees in the entire category would remain constant at the 1975-76 level through 1986-87.

[7] First-professional degrees by field were projected by means of the following methods: (1) Medicine, dentistry, and other health professions were projected by the Health Resources Administration, Bureau of Health Manpower. (2) Projections of law degrees for 1976-77 through 1978-79 are based primarily on the assumption that law degrees, as a percentage of first-year law students 3 years earlier, will remain at the average of the 1973-74 to 1975-76 levels. Alternative projections from 1979-80 through 1986-87 are based on the alternative assumption about the number of projected degrees (for details see appendix A, table A-2). (3) Projections of theology degrees for 1976-77 through 1978-79 are based on the assumption that for each sex theology degrees as a percentage of first-year enrollment for advanced degrees in this field 3 years earlier, will remain constant at the average of the 1973-74 to 1975-76 levels. Alternative projections from 1979-80 through 1986-87 are based on the alternative assumption about the number of projected degrees (for details, see appendix A, table A-1). (4) Only intermediate alternative projections are shown in this table, but the high and low alternative projections of first-professional degrees in law and theology are included in the total projections of first-professional degrees by sex in table 11.

SOURCE: Degree data and estimates are based on U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, publications: (a) *Earned Degrees Conferred by Institutions of Higher Education*, 1964-65 through 1974-75, (b) *Students Enrolled for Advanced Degrees*, fall 1966 through 1976.

Chapter IV
INSTRUCTIONAL STAFF

Martin M. Frankel and Debra Gerald

REGULAR ELEMENTARY AND SECONDARY SCHOOLS

The number of classroom teachers are projected separately for public elementary schools, public secondary schools, nonpublic elementary schools, and nonpublic secondary schools by dividing projections of enrollments by projections of pupil-teacher ratios. The enrollment projections in table 4, which are based on series II population projections, were used with the three alternative projections of pupil-teacher ratios (table 18) to compute the three alternative projections of classroom teachers (table 17).

For public schools, the low alternative projections are based primarily on the assumption that the ratios of enrollment to the number of teachers through 1986 will follow the 1966 to 1976 trends. The high alternative projections assume that the pupil-teacher ratio through 1986 will remain constant at the 1976 level, while the intermediate projections assume that the ratios will equal the average of the high and low alternative projected ratios for each year through 1986.

This method of projecting pupil-teacher ratios in public elementary and secondary schools is somewhat different from the method used in the 1971 through 1976 editions of this publication, when only one projection, rather than three alternative projections, was computed. In the 1976 edition, the trend of pupil-teacher ratios for both elementary and secondary schools was assumed to follow a logistic growth curve with a lower limit of 15 pupils per teacher. However, the intermediate alternative projection of pupil-teacher ratios yields results very similar to those that would have been obtained using such a logistic growth curve. Therefore, it is expected that the projections of classroom teachers in public elementary and secondary schools based on the intermediate assumption will prove to be about as accurate as past projections based on logistic growth curve trends.

Since projections of enrollments in regular public elementary and secondary schools have been fairly accurate, differences between projections of classroom teachers in regular public elementary and secondary schools and actual figures are primarily the result of differences between projected and actual pupil-teacher ratios.

Projections of classroom teachers 1 year out have been off by about 1 percent. Projections 2 years out have been off by about 2 percent and projections 5 years out have been off by about 5 percent. For the most part, the projections of classroom teachers have been too low because projections of pupil-teacher ratios have been too high. However, it seems unlikely that pupil-teacher ratios in public schools will reach the low levels of the low alternative pupil-teacher ratio projections. If these projected low pupil-teacher ratios do occur and the enrollment projections in table 4 continue to be fairly accurate, then nearly 500,000 more teachers will be employed in 1986 than would be employed at the current pupil-teacher ratio levels (high alternative) and nearly 270,000 more teachers would be employed in 1986 than at the intermediate pupil-teacher ratio levels.

If the low alternative pupil-teacher ratios are realized, at the 1976-77 average annual salary for public classroom teachers of $13,200, teachers' salaries over the next 10 years will cost 30 billion 1976-77 dollars more than they would at the current pupil-teacher ratios. If the intermediate pupil-teacher ratios are realized, the additional cost for teachers' salaries over the next 10 years will be 14 billion 1976-77 dollars.

An important fact to keep in mind when working with these alternative projections of pupil-teacher ratios and classroom teachers is that high alternative projections of pupil-teacher ratios yield low alternative projections of classroom teachers and that low alternative projections of pupil-teacher ratios yield high alternative projections of classroom teachers.

Projections of classroom teachers in regular nonpublic elementary and secondary schools are based on the same methodology used for public schools. However, since both enrollment and teacher data are very limited, projections of nonpublic classroom teachers should be considered as "best guesses" based on the assumption that the 1966 to 1976 trends of pupil-teacher ratios will continue through 1986. Alternative projections of nonpublic classroom teachers are not shown.

The number of classroom teachers in regular elementary and secondary schools has doubled from 1.2 million in 1954 to 2.4 million in 1976 (table 17). If the intermediate projections of pupil-teacher ratios are attained, then the number of teachers should decrease slightly to nearly 2.3 million in the early 1980's before climbing back to 2.5 million in 1986. If pupil-teacher ratios remain at the 1976 levels, then the number of teachers probably will decrease to 2.2 million in the early 1980's before beginning a gradual increase in 1984. If pupil-teacher ratios follow their 1966 to 1976 trends, then the number of teachers will increase to 2.7 million in 1986.

Decreases in the number of classroom teachers in elementary schools have been small despite significant enrollment decreases since 1971. Decreases in pupil-teacher ratios have offset the large enrollment decreases, and it is expected that future decreases in pupil-teacher ratios will also offset most of the future enrollment declines through the early 1980's.

Perhaps one of the reasons that decreases in the number of teachers in elementary schools have not corresponded to the enrollment decreases in these schools is the frequent inability of school boards to close underutilized public elementary schools. In many school districts, public elementary schools have tended to be neighborhood schools that have relatively small enrollments compared to secondary schools. Since no neighborhood wants its school closed, the closing of elementary schools and the consolidation of enrollments has proven to be a slow process. As a result, elementary teachers have often taught classes that were smaller than would otherwise be desirable. Secondary schools, on the other hand, have tended to have relatively large enrollments which could be consolidated by merging classes without closing schools. Therefore, enrollment decreases in secondary schools are likely to be accompanied by corresponding decreases in the number of teachers employed in these schools.

Although pupil-teacher ratios in secondary schools will probably continue to decrease gradually over the next 10 years (table 18), the decreases are not expected to be great enough to offset enrollment decreases. By 1986, secondary schools are expected to employ about 150,000 fewer teachers than in 1976, partially reflecting the expected decrease of 3.6 million students over the same period.

Demand for Additional Teachers

Public Schools

The total demand for additional public elementary and secondary school teachers (not employed in the public schools the previous year) includes those needed to allow for enrollment changes, for lowering pupil-teacher ratios, and for replacement of teachers leaving the profession (turnover). During the 5-year period fall 1967 to fall 1971, the cumulative demand for additional public school teachers (including returnees to the profession) was estimated at 1,045,000 (table 19). During the next 5-year period (1972 to 1976) the total cumulative demand for additional teachers was estimated to have dropped to 770,000. For the current 5-year period (1977 to 1981) the demand for additional teachers is expected to decrease further to 541,000; it will increase to 722,000 for the following 5-year period 1982 to 1986. Therefore, about 1.3 million new teachers or returnees to the profession are expected to be hired during the next 10 years, 1977 to 1986. This is about 550,000 fewer teachers than were hired during the period 1967 to 1976.

Table 19 includes alternative projections of demand for additional public school teachers based on high and low turnover rates. The number of teachers necessary to take care of enrollment changes and pupil-teacher ratio changes was computed for each year as the difference between the total employed for the current year and the total employed for the previous year. The number for turnover for the years 1967 to 1971 was based on the assumption that 8 percent of the total classroom teachers had left the profession either temporarily or permanently each year.[1]

Eight percent is the historical turnover rate. However, enrollment decreases combined with increased numbers of college graduates prepared to teach in the early 1970's led to significant changes in the job market for teachers. As a result from 1972 on a teacher turnover rate of 6 percent[2] has been used based on the following assumptions: (1) during the past few years there has been a tight job market for college graduates, thereby reducing the proportion of teachers who leave the profession to take jobs in other fields; (2) the number of teaching openings is decreasing because of decreasing enrollments; (3) budgetary constraints have caused most teaching openings to be filled by new teacher graduates or by teachers with relatively few years of teaching experience, because these teachers receive lower salaries than more experienced teachers; (4) since teaching openings are relatively scarce for experienced teachers, few of these teachers are leaving the profession temporarily; (5) as a result, most of the teachers leaving the profession are older teachers who leave due to sickness, death, and retirement; (6) these teachers are being replaced by beginning teachers and teachers with few years of experience, who tend to be young, thereby reducing the average age of teachers; (7) as the average age of teachers decreases, the number of teachers leaving because of retirement and death is further reduced.

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[1] A. Stafford Metz and Howard L. Fleischman, U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Teacher Turnover in Public Schools, Fall 1968 to Fall 1969* (Washington, D.C., U.S. Government Printing Office, 1974).

Of course this cycle cannot continue indefinitely. Eventually, as fewer additional teachers are hired each year, the average age of teachers will have to begin increasing. But, at the present time it appears that an average turnover rate of 6 percent will hold through 1986.

Projections of the demand for additional teachers based on an 8 percent high alternative turnover rate and a 4.8 percent low alternative turnover rate are also shown in table 19. The 4.8 percent low turnover rate is a theoretical floor for the turnover rate, based on estimates of death, retirement, child bearing and rearing, and promotions to administrative positions.

Although estimates and projections are shown for individual years, very little empirical data are available on teacher turnover rates, the key assumption in determining the demand for additional teachers. The estimates and projections in table 19 are intended to be used for 5-year cumulative demand figures and the turnover rates are intended to be averages over the 5-year periods.

Nonpublic Schools

The projected demand for additional nonpublic elementary and secondary school teachers is shown in table 20. The numbers needed to allow for enrollment changes, pupil-teacher ratio changes, and teacher turnover (6 percent) were computed in the same manner as for public schools. It has already been noted that for nonpublic schools, estimates and projections are based on limited information, and therefore should be considered as best guesses. No projections of the demand for additional teachers based on alternative teacher turnover assumptions are shown.

For the 5-year period fall 1967 to fall 1971, the cumulative demand for additional nonpublic school teachers was estimated at 76,000. For the next 5-year period (1972 to 1976) the total demand for additional teachers was estimated to have increased to 87,000. For the current 5-year period (1977 to 1981) and for the following 5-year period (1982-1986), the total demand for additional nonpublic school teachers is expected to increase to 88,000 and 94,000, respectively.

Supply of Additional Teachers

The supply of additional teachers consists of new teacher graduates and former teacher graduates who were not employed as teachers in the previous year. New teacher graduates are those graduates of institutions of higher education in a given year who are prepared to teach. Former teacher graduates are those who graduated in preceding years and are prepared to teach but did not hold teaching positions in the previous year. Some of these former teacher graduates are former teachers; the remainder have never been employed as teachers.

New Teacher Graduates

Data on new teacher graduates have been collected by the National Education Association for many years. The number of new teacher graduates increased from 199,000 in 1966 to 317,000 in 1972 (table 21). Since 1972, the number has decreased each year reaching 223,000 in 1976.[3] Undoubtedly, the decrease in the number of new teacher graduates is in part the result of the publicity given to the surplus of teachers since the early 1970's. However, a recent NCES sample survey of college graduates indicates that in May 1976, the underemployment rate for 1974-75 education graduates was lower than the average for all 1974-75 college

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[2] Joseph Froomkin, Joseph Froomkin Inc., "Demand and Supply of Elementary and Secondary Teachers," August 26, 1974.

[3] Published and unpublished data from William S. Graybeal, National Education Association, *Teacher Supply and Demand in Public Schools*, Washington, D.C., 1967-1977.

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graduates.[4] As defined in chapter III, underemployed college graduates are those not working in an occupation for which their credentials would seem to qualify them and who reported that, in their opinion, their job does not require a college degree. The underemployment rate for education graduates was about the same as the rates for graduates in biological sciences, physical sciences, and mathematics, and much lower than the rates for graduates in psychology, social sciences, and humanities. Only graduates in engineering and health professions had considerably lower underemployment rates than education graduates.

In recent years, some projections of the supply of new teacher graduates have shown drastic decreases. These projections have been based on data which showed very steep decreases in the intentions of entering college freshmen to seek careers in education. Although decreases in the number of new teacher graduates have been significant, they have not been nearly as severe as those projected on the basis of freshmen intention data. This is not entirely unexpected, since there always has been doubt as to how closely freshmen intentions are reflected in actual fields of preparation 4 years later.

The projections shown in this publication do not anticipate severe decreases in the number of new teacher graduates over the next 10 years. Information from the *Survey of 1974-75 College Graduates* indicates that in 1976 the job outlook for teachers was as good or better than for graduates in most other fields. Although the demand for additional teachers is expected to decrease further over the next 5 years, it is unlikely that the percentage of bachelor's degree recipients prepared to teach will drop below 13 percent, the rate for the low alternative projection in 1986 shown in table 21.

Projections of the supply of new teacher graduates are based on alternative assumptions about the percentage that new teacher graduates represent of the total number of bachelor's degree recipients. The low alternative projection is based on the assumption that future percentages will follow the 1966 to 1976 trend through 1986. The high alternative projection assumes that the 1976 percentage will hold constant through 1986, while the intermediate alternative projection assumes that the percentage that new teacher graduates represent of all bachelor's degree recipients will equal the average of the high and low alternative projections.

The low alternative projection of the supply of new teacher graduates shows a decrease from 223,000 in 1976 to 133,000 in 1986. This represents a decrease from 24 to 13 percent of all bachelor's degree recipients. The intermediate alternative projection shows a decrease to 187,000, or 19 percent of all bachelor's degree recipients. The high intermediate alternative projection shows a slight increase to 241,000, or 24 percent.

The Reserve Pool of Teachers

The supply of new teacher graduates constitutes only part of the total supply of additional teachers. The remainder is referred to in this publication as the "reserve pool of teachers" and is defined as former teacher graduates who are currently not employed as teachers. Each of these persons falls into one of the following labor force categories: (1) unemployed, (2) in the labor reserve,[5] (3) employed in a nonteaching job, or (4) never actively sought employment. Only very limited data exist on which to base rough estimates of the first two of these four components, while no information at all is available on the last two.

In 1970 there were about 30,000 unemployed experienced teachers (of course some inexperienced former teacher graduates were also unemployed). Considering the large surplus of teachers that has been produced since 1970, it seems reasonable to assume that the total number of unemployed former teachers is now substantially larger than 30,000, but a more concise estimate is not possible. Using Bureau of the Census data, the National Education Association estimates that there were about 640,000 former teachers in the labor reserve in 1976 (excluding former teacher graduates who have never taught).[6] There is no information on the number of former teacher graduates who either are employed in nonteaching jobs or never sought employment.

Because of the limited information available, an estimate of 1 million former teachers and former teacher graduates in the reserve pool is necessarily very rough.

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[4] Mark Borinsky, U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Survey of 1974-75 College Graduates* (Washington, D.C., U.S. Government Printing Office, 1978).

[5] The labor reserve includes persons not in the labor force who were employed at some time during the past 10 years. The labor force includes persons who are either employed or unemployed.

[6] William S. Graybeal, National Education Association, *Teacher Supply and Demand in Public Schools*, Research Memo. 1977-3 (Washington, D.C., June, 1977).

However, of this 1 million not all are actively seeking teaching jobs. For example, the National Education Association's estimates that in 1976 only about 120,000 of the 640,000 former teachers in the labor reserve were seeking employment. In addition to these 120,000 former teachers, it is likely that some former teacher graduates in the labor reserve, who have never held teaching positions, were seeking teaching positions as well. Therefore, in excess of 120,000 persons in the labor reserve portion of the reserve pool of teachers were actively seeking teaching positions in 1976. To this amount would have to be added most unemployed teachers, who by definition are actively seeking a job, although not necessarily a teaching job. Also, former teacher graduates who have never before sought employment and former teacher graduates who are employed in nonteaching jobs but are seeking teaching positions, would have to be included. Therefore, it is reasonable to estimate that at least 200,000 former teachers and teacher graduates actively sought teaching positions in 1976.

Table 21 shows three alternative projections of the demand for additional teachers and three alternative projections of the supply of new teacher graduates. This comparison would be valid only if all additional teachers hired were new teacher graduates and all new teacher graduates sought teaching positions. While this is not the case, these projections are shown because the supply of new teacher graduates is the only portion of the supply of additional teachers for which any consistent data exists over time.

The projections in table 21 indicate that for the 5-year period 1977 to 1981, the cumulative supply of new teacher graduates will exceed the cumulative demand for additional teachers. For the intermediate alternative assumptions for both supply and demand, the 5-year supply of new teacher graduates will exceed the total demand for additional teachers by 487,000. Although not all new teacher graduates in the period will seek teaching positions (77 percent of the 1974-75 new teacher graduates sought teaching jobs in 1975-76), a large number of teachers in the reserve pool will also be seeking teaching positions during this 5-year period. In 1976 it was estimated that 200,000 former teacher graduates in the reserve pool sought teaching jobs. Since it is expected that many new teacher graduates in the years 1977 to 1981 will not be able to find teaching positions, the size of the reserve pool will most likely increase during this period. Therefore, the total surplus [illegible] teachers for the years 1977 to 1981 will probably be considerably larger than the imbalances shown in table 21.

Even if the low alternative supply projection is compared with the high alternative demand projection for the same period, a surplus of 193,000 new teacher graduates still results. The high alternative supply compared to the low alternative demand shows a surplus of 697,000.

During the following 5-year period (1982 to 1986), the surplus of new teacher graduates is expected to decrease, as the expected enrollment increases of the mid-1980's (table 4) cause an increase in the numbers of teachers hired. The intermediate projections for both supply and demand show a surplus of new teacher graduates of 192,000, while the high supply projection and the low demand projections show a surplus of 537,000.

Only the comparison of the low supply projection and the high demand projection shows a possible shortage of new teacher graduates. This possible shortage of 237,000 new teacher graduates is based on the assumptions that the teacher turnover rate during this period will average 8 percent and the percentage that new teacher graduates represent of all bachelor's degree recipients will decrease from 24 percent in 1976 to 13 percent in 1986. These two assumptions are optimistic from the point of view of teacher graduates seeking teaching positions.

However, as mentioned earlier, the reserve pool, which was estimated to include 200,000 teachers seeking teaching positions in 1976, most likely will increase in size during the 5-year period 1977 to 1981, when large surpluses of new teacher graduates are expected. Therefore, even if the favorable market conditions for new teachers do occur, there should be more than enough teacher graduates in the reserve pool to insure a surplus of teachers through 1986.

INSTITUTIONS OF HIGHER EDUCATION

Projections of instructional staff in institutions of higher education are based primarily on the assumption that for each type and control of institution the ratio of full-time-equivalent enrollment to full-time-equivalent instructional staff will remain constant at the 1976 level through 1986.

Only limited past data with inconsistent categories of instructional staff are available. Therefore, evaluating past projections and determining past trends is nearly impossible. Because of the limitations of the past instructional staff data, and because of the uncertainty of the future course of full-time equivalent enrollments in institutions of higher education, the projections of instructional staff should be used with caution.

Instructional staff includes individuals employed for the primary purpose of performing instruction, research, or both. "Instructor or above" includes employees most commonly having such titles as professor, associate professor, assistant professor, or instructor. Junior staff includes employees most commonly having such titles as teaching assistant, teaching associate, teaching fellow, or research assistant. These positions are typically held by graduate students.

Full-time and part-time instructional staff increased from 445,000 in 1966 to 793,000 in 1976. Three alternative projections of instructional staff are shown in table 22, each based on the corresponding alternative projection of full-time equivalent enrollment in table 8.

The low alternative projection of full-time and part-time instructional staff shows an increase to 807,000 in 1979 followed by a gradual decrease to 740,000 in 1986. This projection reflects the projection of a decrease of full-time-equivalent enrollment in the low alternative projection in table 8.

The intermediate alternative projection shows an increase in instructional staff to 823,000 in 1986 and the high alternative projection shows a larger increase to 894,000.

Full-time-equivalent instructional staff (see appendix A, "Glossary") in institutions of higher education increased from 351,000 in 1966 to 584,000 in 1976 (table 23). The low alternative projection shows a slight increase to 592,000 in 1980 followed by a gradual decrease to 539,000 in 1986. The intermediate and high alternative projections show increases to 599,000 and 648,000 respectively in 1986.

Demand for Additional Instructional Staff

The demand for additional staff is projected as the total staff required for increased enrollment and student-staff ratio changes, and for replacement of those who have left the profession either temporarily or permanently. The number of full-time-equivalent staff required for increased enrollment and student-staff ratio change is computed as the difference between the total numbers employed in successive years. Previously, replacement requirements were estimated at 6 percent of the total number of full-time-equivalent staff employed in the previous year. The assumption of a 6-percent replacement rate is based on unpublished data from a 1963 U.S. Office of Education study which showed that about 5 percent of the full-time instructors and above in 4-year institutions intended to leave employment in institutions of higher education during the following year. If we estimate an additional 1 percent for mortality, the annual replacement rate is then 6 percent. However, recent evidence has pointed toward a replacement rate of less than 6 percent. It is believed that 2 percent of the instructional staff either retire or die each year. The remainder of the demand for additional staff is made up of those who leave the profession either temporarily or permanently. Since the percentage of tenured staff has been increasing,[7] it seems reasonable to assume that the percentage of staff that leaves the profession has been decreasing.

Therefore, for the estimates of additional full-time-equivalent instructional staff needed for replacement from 1972 to 1976, a 4.5-percent replacement rate was used. This same rate was used to project the low and intermediate alternative projections of demand due to replacement. For the high alternative projection of demand due to replacement, the 6-percent rate mentioned earlier was used.

The estimated demand for additional full-time-equivalent instructional staff was 238,000 from 1972 through 1976 (table 24). For the 5-year period 1977 through 1981, the low alternative projection is 137,000, the intermediate alternative projection is 176,000, and the high alternative projection is 262,000.

For 1982 through 1986, the low, intermediate, and high alternative projections are 80,000, 114,000, and 187,000, respectively.

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[7] Curtis O. Baker, U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Employees in Institutional Units in Higher Education, Year Ending 1977* (in process).

Figure 6.–Classroom teachers in elementary and secondary day schools, with alternative projections: United States, fall 1956 to 1986

(Data from table 17)

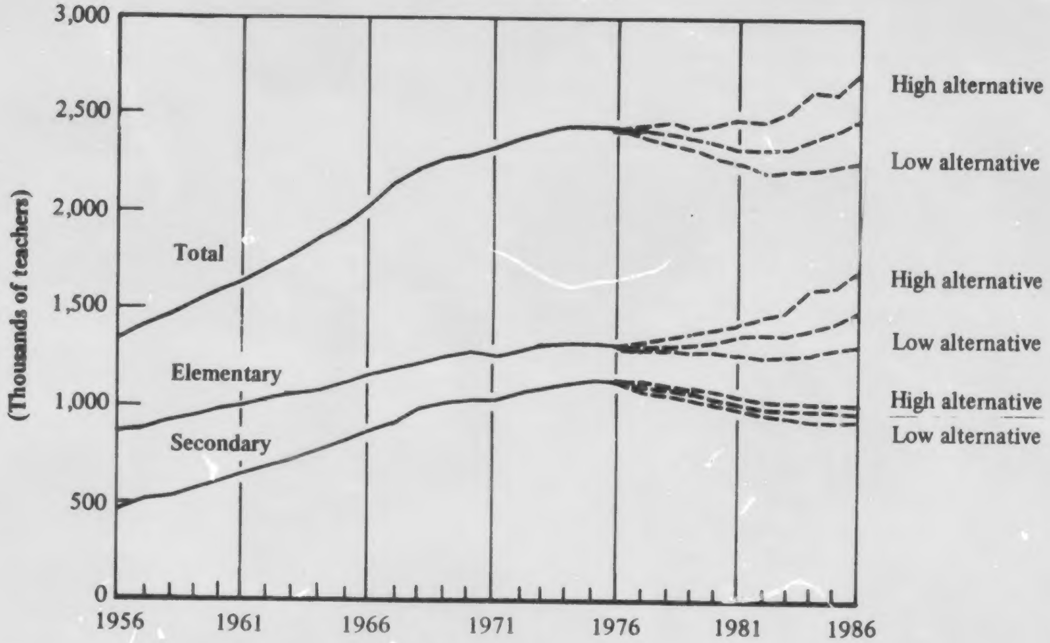

Figure 7.–Estimated demand for additional teachers in regular elementary and secondary day schools, and estimated supply of new teacher graduates, 5-year totals: United States, fall 1967 to 1986

(Data from table 21)

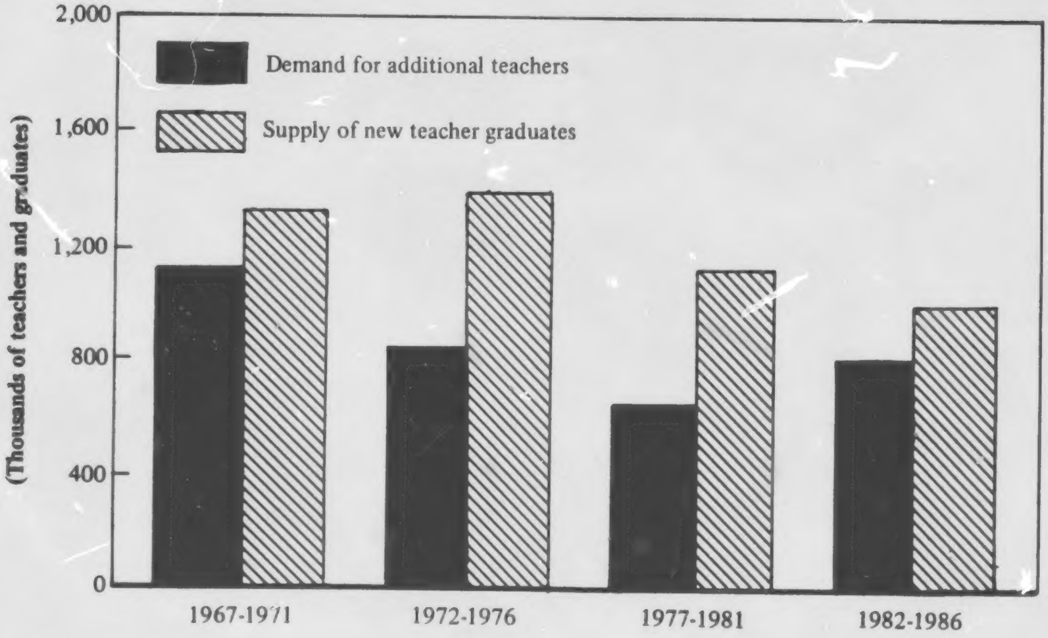

Figure 8.—Total full-time and part-time instructional staff in all institutions of higher education, with alternative projections, by professional rank: United States, fall 1966 to 1986

(Data from table 22)

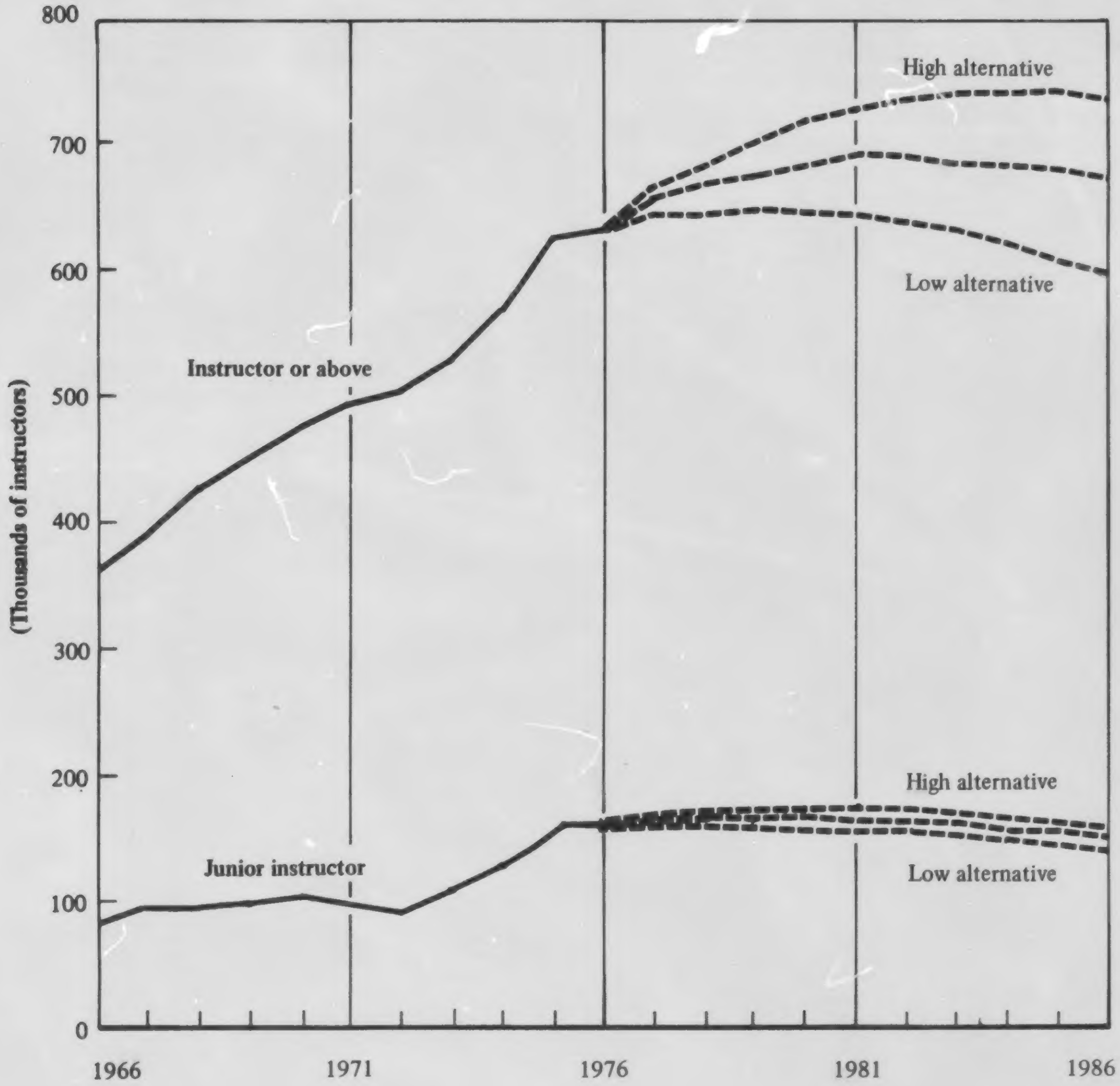

Table 17.–Classroom teachers in regular elementary and secondary day schools, with alternative projections, by control and level of institution: United States, fall 1954 to 1986[1]

[In thousands]

Year (fall)	Public and nonpublic			Public			Nonpublic (estimated)[2]		
	K-12	Elementary	Secondary	K-12	Elementary	Secondary	K-12	Elementary	Secondary
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1954	1,208	781	427	1,068	691	377	140	90	50
1955	1,286	827	459	1,141	733	408	145	94	51
1956	1,354	854	499	1,199	751	447	155	103	52
1957	1,424	898	526	1,259	786	473	165	112	53
1958	1,475	931	544	1,306	815	491	169	116	53
1959	1,531	952	580	1,355	832	524	176	120	56
1960	1,600	991	609	1,408	858	550	192	133	[3]59
1961	1,643	992	651	1,461	869	592	182	[3]123	59
1962	1,708	1,021	686	1,508	886	621	200	135	65
1963	1,790	1,050	739	1,578	908	669	212	142	70
1964	1,865	1,086	779	1,648	940	708	217	146	71
1965	1,933	1,112	822	1,710	965	746	223	[3]147	[3]76
1966	2,012	1,153	859	1,789	1,006	783	223	147	76
1967	2,079	1,188	891	1,855	1,040	815	224	148	76
1968	2,161	1,223	938	1,936	1,076	860	225	[3]147	[3]78
1969	2,242	1,259	984	2,013	1,108	906	229	151	78
1970	2,288	1,281	1,007	2,055	1,128	927	233	[3]153	[3]80
1971	2,294	1,262	1,032	2,063	[4]1,111	[4]952	231	[5]151	[5]80
1972	2,338	1,292	1,046	2,103	[4]1,140	[4]963	235	[5]152	[5]83
1973	2,376	1,305	1,071	2,138	[4]1,152	[4]986	238	[5]153	[5]85
1974	2,404	1,320	1,084	2,165	[4]1,167	[4]998	239	[5]153	[5]86
1975	2,441	1,336	1,105	2,196	[4]1,180	[4]1,016	245	[5]156	[5]89
1976	2,440	1,328	1,112	2,193	[4]1,170	[4]1,023	247	[5]158	[5]89
				Intermediate alternative projection[6]					
1977	2,427	1,324	1,103	2,178	1,164	1,014	249	160	89
1978	2,409	1,322	1,087	2,157	1,159	998	252	163	89
1979	2,386	1,324	1,062	2,132	1,159	973	254	165	89
1980	2,360	1,327	1,033	2,104	1,160	944	256	167	89
1981	2,348	1,339	1,009	2,088	1,168	920	260	171	89
1982	2,342	1,351	991	2,080	1,178	902	262	173	89
1983	2,34[illegible]	1,362	983	2,080	1,186	894	265	176	89
1984	2,371	1,393	978	2,103	1,214	889	268	179	89
1985	2,410	1,437	973	2,139	1,255	884	271	182	89
1986	2,454	1,490	964	2,180	1,305	875	274	185	89
				Low alternative projection[7]					
1977	2,411	1,313	1,098	2,162	1,153	1,009	249	160	89
1978	2,371	1,295	1,076	2,119	1,132	987	252	163	89
1979	2,327	1,281	1,046	2,073	1,116	957	254	165	89
1980	2,286	1,273	1,013	2,030	1,106	924	256	167	89
1981	2,253	1,269	984	1,993	1,098	895	260	171	89
1982	2,225	1,264	961	1,963	1,091	872	262	173	89
1983	2,213	1,264	949	1,948	1,088	860	265	176	89
1984	2,216	1,276	940	1,948	1,097	851	268	179	89
1985	2,228	1,298	930	1,957	1,116	841	271	182	89
1986	2,251	1,334	917	1,977	1,149	828	274	185	89

See footnotes at end of table.

Table 17.–Classroom teachers in regular elementary and secondary day schools, with alternative projections, by control and level of institution: United States. fall 1954 to 1986[1] – Cont.

[In thousands]

Year (fall) (1)	Public and nonpublic			Public			Nonpublic (estimated)[2]		
	K-12 (2)	Elementary (3)	Secondary (4)	K-12 (5)	Elementary (6)	Secondary (7)	K-12 (8)	Elementary (9)	Secondary (10)
				High alternative projection[8]					
1977	2,449	1,340	1,109	2,200	1,180	1,020	249	160	89
1978	2,454	1,356	1,098	2,202	1,193	1,009	252	163	89
1979	2,448	1,370	1,078	2,194	1,205	989	254	165	89
1980	2,447	1,392	1,055	2,191	1,225	966	256	167	89
1981	2,460	1,425	1,035	2,200	1,254	946	260	171	89
1982	2,475	1,453	1,022	2,213	1,280	933	262	173	89
1983	2,508	1,488	1,020	2,243	1,312	931	265	176	89
1984	2,625	1,604	1,021	2,357	1,425	932	268	179	89
1985	2,637	1,616	1,021	2,366	1,434	932	271	182	89
1986	2,722	1,705	1,017	2,448	1,520	928	274	185	89

[1] Includes full-time and the full-time equivalent of part-time classroom teachers. Prior to 1969, the data include some part-time teachers who were not converted to full-time equivalents. Does not include teachers in independent nursery and kindergarten schools, residential schools for exceptional children, subcollegiate departments of institutions of higher education, Federal schools for Indians, federally operated schools on Federal installations, and other schools not in the regular school system.

[2] Instructional staff and classroom teachers are not reported separately. All data unless otherwise indicated are estimated.

[3] Reported data from Office of Education surveys.

[4] Estimated. See appendix A "Estimation Methods."

[5] Revised.

[6] The intermediate projection of teachers in both public and nonpublic schools depends upon the series II projection of enrollments (table 4) and the intermediate projection of pupil-teacher ratios (table 18).

[7] The projection of teachers in both public and nonpublic schools depends upon the series II projection of enrollments (table 4) and the high alternative projection of pupil-teacher ratios (table 18). The use of high alternative pupil-teacher ratio projections results in low alternative teacher projections.

[8] The projections of teachers in both public and nonpublic schools depends upon the series II projection of enrollment (table 4) and the low alternative projection of pupil-teacher ratios (table 18). The use of low alternative pupil-teacher ratio projections results in high alternative teacher projections.

For further methodological details, see appendix A, table A-3.

NOTE.–Data are for 50 States and the District of Columbia for all years. Because of rounding, details may not add to totals.

SOURCES: (a) U.S. Department of Health, Education, and Welfare, National Center for Education Statistics publications: (1) *Statistics of Public Elementary and Secondary Day Schools,* fall 1964 through 1976, (2) *Enrollments, Teachers, and Schoolhousing,* fall 1956 through 1963, (3) *Statistics of Nonpublic Elementary and Secondary Schools, 1970-71,* (4) *Statistics of Public and Nonpublic Elementary and Secondary Day Schools, 1968-69,* (5) *Statistics of Nonpublic Elementary and Secondary Schools, 1965-66,* (6) *Statistics of Nonpublic Elementary Schools, 1961-62,* (7) *Statistics of Nonpublic Secondary Schools, 1960-61,* and (b) National Education Association publication: Research Reports, *Estimation of School Statistics,* 1972-73, 1973-74, 1974-75, 1975-76, and 1976-77.

Table 18.–Pupil-teacher ratios in regular elementary and secondary day schools, with alternative projections, by control and level of institution: United States, fall 1954 to 1986[1]

Year (fall)	Public		Nonpublic (estimated)[2]	
	Elementary	Secondary	Elementary	Secondary
(1)	(2)	(3)	(4)	(5)
1954	30.9	21.8	40.0	16.0
1955	30.2	20.9	40.4	15.7
1956	29.6	21.2	38.9	16.5
1957	29.1	21.3	38.5	17.9
1958	28.7	21.7	38.7	18.2
1959	28.7	21.5	38.8	18.5
1960	28.4	21.7	36.0	[3]18.3
1961	28.3	21.7	[3]37.4	18.6
1962	28.5	21.7	36.3	18.5
1963	28.4	21.5	35.3	18.5
1964	27.9	21.5	34.3	18.3
1965	27.6	20.8	[3]33.5	[3]18.1
1966	26.9	20.3	32.3	18.1
1967	26.3	20.3	31.1	18.1
1968	25.4	20.4	[3]29.8	[3]17.3
1969	24.8	20.0	27.9	17.1
1970	24.4	19.8	[3]26.5	[3]16.4
1971	[4]24.9	[4]19.3	[5]25.5	[5]16.2
1972	[4]24.0	[4]19.1	[5]24.5	[5]15.7
1973	[4]22.9	[4]19.3	[5]23.7	[5]15.7
1974	[4]22.6	[4]18.7	[5]23.5	[5]15.9
1975	[4]21.7	[4]18.8	[5]23.1	[5]15.7
1976	[4]21.7	[4]18.5	[5]22.8	[5]15.7
	Intermediate alternative projection[6]			
1977	21.5	18.4	22.5	15.7
1978	21.2	18.3	22.1	15.7
1979	20.9	18.2	21.8	15.7
1980	20.7	18.1	21.5	15.7
1981	20.4	18.0	21.1	15.7
1982	20.1	17.9	20.8	15.7
1983	19.9	17.8	20.5	15.7
1984	19.6	17.7	20.1	15.7
1985	19.3	17.6	19.8	15.7
1986	19.1	17.5	19.5	15.7
	Low alternative projection[7]			
1977	21.2	18.3	22.5	15.7
1978	20.6	18.1	22.1	15.7
1979	20.1	17.9	21.8	15.7
1980	19.6	17.7	21.5	15.7
1981	19.0	17.5	21.1	15.7
1982	18.5	17.3	20.8	15.7
1983	18.0	17.1	20.5	15.7
1984	17.4	16.9	20.1	15.7
1985	16.9	16.7	19.8	15.7
1986	16.4	16.5	19.5	15.7

See footnotes at end of table.

Table 18.–Pupil-teacher ratios in regular elementary and secondary day schools, with alternative projections, by control and level of institution: United States, fall 1954 to 1986[1] – Cont.

Year (fall) (1)	Public		Nonpublic (estimated)[2]	
	Elementary (2)	Secondary (3)	Elementary (4)	Secondary (5)
	High alternative projections[8]			
1977	21.7	18.5	22.5	15.7
1978	21.7	18.5	22.1	15.7
1979	21.7	18.5	21.8	15.7
1980	21.7	18.5	21.5	15.7
1981	21.7	18.5	21.1	15.7
1982	21.7	18.5	20.8	15.7
1983	21.7	18.5	20.5	15.7
1984	21.7	18.5	20.1	15.7
1985	21.7	18.5	19.8	15.7
1986	21.7	18.5	19.5	15.7

[1] Includes full-time and the full-time equivalent of part-time classroom teachers. Prior to 1969, the data included some part-time teachers who were not converted to full-time equivalents. Does not include teachers in independent nursery and kindergarten schools, residential schools for exceptional children, subcollegiate departments of institutions of higher education, Federal installations, and other schools not in the regular school system.

[2] Instructional staff and classroom teachers are not reported separately. All data unless otherwise indicated are estimated.

[3] Reported data from Office of Education surveys.

[4] Estimated. See appendix A, "Estimation Methods."

[5] Revised.

[6] The intermediate alternative projections of pupil-teacher ratios in public elementary and secondary schools are based on the assumption that the ratio of enrollment to the number of teachers will be the average of the high and low alternative projections of pupil-teacher ratios for each year. The projection of pupil-teacher ratios in nonpublic elementary and secondary schools are based on the assumption that the ratio will follow the 1966-1976 trend through 1986.

[7] The low alternative projections of pupil-teacher ratios in public elementary and secondary schools are based on the assumption that the ratio of enrollment to number of teachers will follow the 1966-1976 trend through 1986. The projections of pupil-teacher ratios in nonpublic elementary and secondary schools are based on the assumption that the ratio will follow the 1966-1976 trend through 1986.

[8] The high alternative projections of pupil-teacher ratios in public elementary and secondary schools are based on the assumption that the ratio of enrollment to number of teachers will remain constant at the 1976 level through 1986. The projection of pupil-teacher ratios in nonpublic elementary and secondary schools are based on the assumption that the ratio will follow the 1966-1976 trend through 1986.

NOTE.–Data are for 50 States and the District of Columbia for all years. Because of rounding, details may not add to totals.

NOTE.–Low alternative pupil-teacher ratios are used to determine high alternative teacher projections and high alternative pupil-teacher ratios determine the low alternate teacher projections.

SOURCES: (a) U.S. Department of Health, Education, and Welfare, National Center for Education Statistics publications: (1) *Statistics of Public Elementary and Secondary Day Schools*, fall 1964 through 1976, (2) *Enrollments, Teachers, and Schoolhousing*, fall 1956 through 1963, (3) *Statistics of Nonpublic Elementary and Secondary Schools, 1970-71*, (4) *Statistics of Public and Nonpublic Elementary and Secondary Day Schools, 1968-69*, (5) *Statistics of Nonpublic Elementary and Secondary Schools, 1965-66*, (6) *Statistics of Nonpublic Elementary Schools, 1961-62*, (7) *Statistics of Nonpublic Secondary Schools, 1960-61*; and (b) National Education Association publications: Research Reports, *Estimation of School Statistics*, 1972-73, 1973-74, 1974-75, 1975-76, 1976-77.

Table 19.–Estimated demand for classroom teachers in regular public elementary and secondary day schools, with alternative projections: United States, fall 1966 to 1986[1]

[In thousands]

Year (fall)	Total teacher demand	Demand for additional certificated teachers[1]			
		Total	For enrollment changes[2]	For pupil-teacher ratio changes[3]	For teacher turnover[4]
(1)	(2)	(3)	(4)	(5)	(6)
1966	1,789				
1967	1,855	209	43	23	143
1968	1,936	229	51	30	148
1969	2,013	232	34	43	155
1970	2,055	203	16	26	161
1971	2,063	172	9	-1	164
1967-1971	...	1,045	153	121	771
1972	2,103	164	-12	52	124
1973	2,138	161	-7	42	126
1974	2,165	155	-19	46	128
1975	2,196	161	-6	37	130
1976	2,193	129	-18	15	132
1972-1976	...	770	-62	192	640
		Intermediate alternative projection[5]			
1977	2,178	117	-31	16	132
1978	2,157	110	-42	21	131
1979	2,132	104	-47	22	129
1980	2,104	100	-45	17	128
1981	2,088	110	-38	22	126
1977-1981	...	541	-203	98	646
1982	2,080	117	-31	23	125
1983	2,080	126	-16	17	125
1984	2,103	148	0	23	125
1985	2,139	162	12	24	126
1986	2,180	169	23	18	128
1982-1986	...	722	-12	105	629
		Low alternative projection[6]			
1977	2,178	90	-31	16	105
1978	2,157	84	-42	21	105
1979	2,132	79	-47	22	104
1980	2,104	74	-45	17	102
1981	2,088	85	-38	22	101
1977-1981	...	412	-203	98	517
1982	2,080	92	-31	23	100
1983	2,080	101	-16	17	100
1984	2,103	123	0	23	100
1985	2,139	137	12	24	101
1986	2,180	144	23	18	103
1982-1986	...	597	-12	105	504

See footnotes at end of table.

Table 19.–Estimated demand for classroom teachers in regular public elementary and secondary day schools, with alternative projections: United States, fall 1966 to 1986[1] – Cont.

[In thousands]

Year (fall) (1)	Total teacher demand (2)	Demand for additional certificated teachers[1] Total (3)	For enrollment changes[2] (4)	For pupil-teacher ratio changes[3] (5)	For teacher turnover[4] (6)
		High alternative projection[7]			
1977	2,178	160	–31	16	175
1978	2,157	153	–42	21	174
1979	2,132	148	–47	22	173
1980	2,104	143	–45	17	171
1981	2,088	152	–38	22	168
1977-1981	---	756	–203	98	861
1982	2,080	159	–31	23	167
1983	2,080	167	–16	17	166
1984	2,103	189	0	23	166
1985	2,139	204	12	24	168
1986	2,180	212	23	18	171
1982-1986	---	931	–12	105	838

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[1] Includes full-time and the full-time equivalent of part-time classroom teachers. Does not include teachers in independent nurseries and kindergartens, residential schools for exceptional children, subcollegiate departments of institutions of higher education, Federal schools for Indians, federally operated schools on Federal installations, and other schools not in the regular school system.

[2] For enrollment changes, the number of additional teachers needed is the total needed for both enrollment changes and pupil-teacher ratio changes less the number needed for pupil-teacher ratio changes alone; the number of additional teachers needed for both enrollment changes and pupil-teacher ratio changes is the total teacher demand in a given year less the total teacher demand in the previous year.

[3] For changes in pupil-teacher ratios, the number of additional teachers needed is the total teacher demand in a given year less the estimated total teacher demand in the same year had the pupil-teacher ratio in the previous year remained constant.

[4] For teacher turnover, the number of additional teachers needed to replace those leaving the profession either temporarily or permanently was estimated at 8 percent of the total employed in the previous year for 1967 to 1971. The 8 percent separation rate is based on the Office of Education study *Teacher Turnover in Public Schools, Fall 1968 to Fall 1969.* The turnover rate for 1972 to 1976 was estimated at 6 percent. The 6 percent separation rate is based on a 1974 study by Joseph Fromkin entitled, *Demand and Supply of Elementary and Secondary Teachers, 1980.*

[5] The projection of total teacher demand is the intermediate projection of classroom teachers shown in table 17. The intermediate projection of demand due to teacher turnover is based on the assumption that the 6 percent turnover rate will continue through 1986.

[6] The projection of total teacher demand is the intermediate projection of classroom teachers shown in table 17. The low projection of demand due to teacher turnover is based on the assumption that the turnover rate will average 4.8 percent, a theoretical floor for teacher turnover, over each of the next two 5 year periods.

[7] The projection of total teacher demand is the intermediate projection of classroom teachers shown in table 17. The high projection of demand due to teacher turnover is based on the assumption that the turnover rate will average 8 percent, the historical rate, over each of the next two 5 year periods.

For further methodological details, see appendix A, table A-3.

NOTE.– Data are 50 States and the District of Columbia for all years. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, publication: *Statistics of Public Schools,* fall 1966 through 1976.

Table 20.–Estimated demand for classroom teachers in regular nonpublic elementary and secondary day schools, with projections: United States, fall 1966 to 1986

[In thousands]

Year (fall)	Total teacher demand	Demand for additional teachers[1]			
		Total	For enrollment changes	For pupil-teacher ratio changes	For teacher turnover
(1)	(2)	(3)	(4)	(5)	(6)
1966	223	...	...	...	...
1967	224	14	–5	6	13
1968	225	14	–8	9	13
1969	229	18	–7	11	14
1970	233	18	–7	11	14
1971	231	12	–9	7	14
1967-1971	...	76	–36	44	68
1972	235	18	–5	9	14
1973	238	17	–2	5	14
1974	239	15	1	–	14
1975	245	20	0	6	14
1976	247	17	0	2	15
1972-1976	...	87	–6	22	71
			Projected		
1977	249	17	–	2	15
1978	252	18	–	3	15
1979	254	17	–	2	15
1980	256	17	–	2	15
1981	260	19	–	4	15
1977-1981	...	88	–	13	75
1982	262	18	–	2	16
1983	265	19	–	3	16
1984	268	19	–	3	16
1985	271	19	–	3	16
1986	274	19	–	3	16
1982-1986	...	94	–	14	80

[1] The estimates and projections of demand for additional teachers were based on the following assumptions: (1) For changes in pupil-teacher ratios, the number of additional teachers needed is the total teacher demand in a given year less the estimated total teacher demand in the same year had the pupil-teacher ratio in the previous year remained constant. (2) For enrollment changes, the number of additional teachers needed is the total needed for both enrollment changes and pupil-teacher ratio changes less the number needed for pupil-teacher ratio changes alone; the number of additional teachers needed for both enrollment changes and pupil-teacher ratio changes is the total teacher demand in a given year less the total teacher demand in the previous year. (3) For teacher turnover, the number of additional teachers needed to replace those leaving the nonpublic schools either temporarily or permanently is assumed to be 6 percent of the total employed in the previous year.

For further methodological details, see appendix A, table A-3.

NOTE.–Data are for 50 States and the District of Columbia for all years. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, publications: (1) *Statistics of Nonpublic Elementary and Secondary Schools, 1970-71,* (2) *Statistics of Public and Nonpublic Elementary and Secondary Day Schools, 1968-69,* and (3) *Statistics of Nonpublic Elementary and Secondary Schools, 1965-66.*

Table 21.–Estimated supply of new teacher graduates compared to estimated total demand for additional teachers in regular elementary and secondary schools, with alternative projections: United States, fall 1967 to 1986

[In thousands]

Year (fall) (1)	Estimated supply of new teacher graduates[1] (2)	Estimated total demand for additional teachers[2] (3)	Supply of new teacher graduates as a percentage of the total demand for additional teachers (4)
1967	220	223	98.7
1968	233	243	95.9
1969	264	250	105.6
1970	284	221	128.5
1971	314	184	170.7
1967-1971	1,315	1,121	117.3
1972	317	182	174.2
1973	313	178	175.8
1974	279	170	164.1
1975	238	181	131.5
1976	223	146	152.7
1972-1976	1,370	857	159.9
	Intermediate alternative projection[3]		
1977	231	134	172.4
1978	221	128	172.7
1979	224	121	185.1
1980	222	117	189.7
1981	218	129	169.0
1977-1981	1,116	629	177.4
1982	214	135	158.5
1983	208	145	143.4
1984	203	167	121.6
1985	196	181	108.3
1986	187	188	99.5
1982-1986	1,008	816	123.5
	Low alternative supply projection – High alternative demand projection[4]		
1977	225	177	127.1
1978	211	171	123.4
1979	208	165	126.1
1980	202	160	126.3
1981	191	171	111.7
1977-1981	1,037	844	122.9
1982	181	177	102.3
1983	169	186	90.9
1984	159	208	76.4
1985	146	223	65.5
1986	133	231	57.6
1982-1986	788	1,025	76.9

See footnotes at end of table.

Table 21.–Estimated supply of new teacher graduates compared to estimated total demand for additional teachers in regular elementary and secondary schools, with alternative projections: United States, fall 1967 to 1986 – Cont.

[In thousands]

Year (fall) (1)	Estimated supply of new teacher graduates[1] (2)	Estimated total demand for additional teachers[2] (3)	Supply of new teacher graduates as a percentage of the total demand for additional teachers (4)
	High alternative supply projection – Low alternative demand projection[5]		
1977	236	107	220.6
1978	232	102	227.5
1979	240	96	250.0
1980	243	91	267.0
1981	246	104	236.5
1977-1981	1,197	500	239.4
1982	247	110	224.5
1983	248	120	206.7
1984	247	142	173.9
1985	245	156	157.1
1986	241	163	147.9
1982-1986	1,228	691	177.7

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[1] The supply of new teacher graduates constitutes only part of the total supply of additional teachers. In 1976 an estimated 200,000 additional qualified teachers (not new teacher graduates) sought teaching positions. During 1975-76, 77 percent of the 1974-75 new teacher graduates sought teaching positions.

[2] The sum of the total demand for additional teachers in tables 19 and 20.

[3] Projections of the supply of new teacher graduates are based primarily on the assumption that the percentage that new teacher graduate represent of total bachelor's degree recipients will equal the average of the percentages of the high and low alternative projections. Projections of the demand for additional teachers are the sums of the intermediate projection in table 19 and the projection in table 20. Both of these projections assume a 6 percent turnover rate.

[4] Projections of the supply of new teacher graduates are based primarily on the assumption that the percentage that new teacher graduates represent of total bachelor's degree recipients will follow the 1966 to 1976 decreasing trend through 1986. Projections of the demand for additional teachers are the sums of the high alternative projection in table 19 and the projection in table 20. The projection in table 20 (nonpublic demand) is based on a 6 percent turnover rate. The high alternative projection in table 19 (public demand) is based on the assumption of a return to the 8 percent turnover rate of the 1950's and 1960's.

[5] Projections of the supply of new teacher graduates are based primarily on the assumption that the percentage that new teacher graduates are of all bachelor's degree recipients will remain constant at the 1976 level through 1986. Projections of the demand for additional teachers are the sum of the alternative projections in table 19 and the projections in table 20. The projection in table 20 (nonpublic demand) is based on a 6 percent turnover rate. The low alternative projection in table 19 (public demand) is based on a 4.8 percent turnover rate, a theoretical floor.

NOTE.–Data are for 50 States and the District of Columbia for all years. Because of rounding, details may not add to totals.

SOURCE: (1) U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, publications: (a) *Statistics of Public Schools*, fall 1966 through 1976, (b) *Statistics of Nonpublic Elementary and Secondary Schools*, 1965-66 and 1970-71, and (c) *Statistics of Public and Nonpublic Elementary and Secondary Schools, 1968-69*; and (2) National Education Association publications: published and unpublished data from *Teacher Supply and Demand in Public Schools*, 1973 and 1976.

Table 22.–Full-time and part-time instructional staff in all institutions of higher education, with alternative projections, by professional rank: United States, fall 1966 to 1986

[In thousands]

Year (fall)	Total	Instructor or above			Junior instructor		
		Total	Full-time	Part-time	Total	Full-time	Part-time
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1966	445	362	278	84	83	16	67
1967	484	390	299	91	94	13	81
1968[1]	523	428	332	96	95	15	80
1969[1]	546	450	350	100	97	15	82
1970	573	474	369	104	101	14	87
1971[1]	590	492	379	113	97	10	88
1972	590	500	380	120	90	6	84
1973[1]	634	527	389	138	107	13	94
1974[1]	695	567	406	161	128	17	111
1975[1]	781	628	440	188	153	22	131
1976	793	633	434	199	160	28	132
Intermediate alternative projection[2]							
1977	823	657	449	208	166	28	138
1978	830	667	452	215	163	28	135
1979	839	675	457	218	164	29	135
1980	848	683	462	221	165	30	135
1981	855	691	463	228	164	29	135
1982	851	690	462	228	161	29	132
1983	845	684	459	225	161	29	132
1984	840	685	456	229	155	28	127
1985	834	680	451	229	154	27	127
1986	823	673	446	227	150	27	123
Low alternative projection[2]							
1977	806	646	442	204	160	28	132
1978	803	645	441	204	158	28	130
1979	807	649	441	208	158	28	130
1980	806	648	440	208	158	29	129
1981	801	647	436	211	154	28	126
1982	792	639	433	206	153	26	127
1983	781	632	426	206	149	26	123
1984	766	622	419	203	144	26	118
1985	753	610	409	201	143	25	118
1986	740	599	401	198	141	25	116

See footnotes at end of table.

Table 22.–Full-time and part-time instructional staff in all institutions of higher education, with alternative projections, by professional rank: United States, fall 1966 to 1986 – Cont.

[In thousands]

Year (fall) (1)	Total (2)	Instructor or above			Junior instructor		
		Total (3)	Full-time (4)	Part-time (5)	Total (6)	Full-time (7)	Part-time (8)
				High alternative projection[2]			
1977	832	666	455	211	166	28	138
1978	850	683	465	218	167	29	138
1979	871	701	474	227	170	30	140
1980	888	718	485	233	170	30	140
1981	901	729	489	240	172	30	142
1982	906	736	492	244	170	30	140
1983	906	741	493	248	165	30	135
1984	906	742	490	252	164	29	135
1985	905	743	487	256	162	29	133
1986	894	738	482	256	156	29	127

[1] Estimated. See appendix A, "Estimation Methods."

[2] The projections of full-time and part-time instructional staff are based on the projections of full-time equivalent instructional staff in table 28 and the following assumption: For each type and control category of institutions of higher education and for junior and senior instructional staff separately, the percentage that the full-time equivalent of part-time instructional staff represented of part-time instructional staff in 1976 will remain constant through 1986.

For methodological details, see appendix A, table A-3.

NOTE.–Because of rounding, details may not add to totals.

SOURCES: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, publications: (1) *Number and Characteristics of Employees in Institutions of Higher Education*, fall 1966 and 1967, (2) *Teaching and Research Staff by Academic Fields, Fall 1968*, (3) unpublished data from survey on employees in institutions of higher education, fall 1970, (4) *Numbers of Employees in Institutions of Higher Education, Fall 1972*, and (5) *Employees in Institutions of Higher Education, Fall 1976.*

Table 23.–Full-time-equivalent instructional staff in all institutions of higher education, with alternative projections, by professional rank: United States, fall 1966 to 1986[1]

[In thousands]

Year (fall)	Estimated total full-time equivalent	Instructor or above			Junior instructor		
		Total	Full time	Full-time equivalent of part time	Total	Full time	Full-time equivalent of part time
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1966	351	308	278	29	43	16	27
1967	378	331	299	32	46	13	33
1968[1]	412	364	332	32	48	15	33
1969[1]	430	383	350	33	49	15	33
1970	451	402	369	33	50	14	36
1971[1]	458	414	379	35	44	10	34
1972	455	417	380	37	38	6	32
1973[1]	481	433	389	44	48	13	35
1974[1]	516	457	406	51	59	17	42
1975[1]	574	501	440	61	73	22	51
1976	584	501	434	66	83	28	55
			Intermediate alternative projection[2]				
1977	604	519	449	70	85	28	57
1978	608	524	452	72	84	28	56
1979	615	530	457	73	85	29	56
1980	622	536	462	74	86	30	56
1981	624	539	463	76	85	29	56
1982	622	538	462	76	84	29	55
1983	618	534	459	75	84	29	55
1984	613	532	456	76	81	28	53
1985	607	527	451	76	80	27	53
1986	599	521	446	75	78	27	51
			Low alternative projection[2]				
1977	593	510	442	68	83	28	55
1978	591	509	441	68	82	28	54
1979	592	510	441	69	82	28	54
1980	592	509	440	69	83	29	54
1981	587	506	436	70	81	28	53
1982	580	501	433	68	79	26	53
1983	571	494	426	68	77	26	51
1984	561	486	419	67	75	26	49
1985	549	475	409	66	74	25	49
1986	539	466	401	65	73	25	48

See footnotes at end of table.

Table 23.—Full-time-equivalent instructional staff in all institutions of higher education, with alternative projections, by professional rank: United States, fall 1966 to 1986[1] – Cont.

[In thousands]

Year (fall)	Estimated total full-time equivalent	Instructor or above			Junior instructor		
		Total	Full time	Full-time equivalent of part time	Total	Full time	Full-time equivalent of part time
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
				High alternative projection[2]			
1977	611	526	455	71	85	28	57
1978	623	538	465	73	85	29	56
1979	638	550	474	76	88	30	58
1980	651	563	485	78	88	30	58
1981	658	569	489	80	89	30	59
1982	661	573	492	81	88	30	58
1983	661	575	493	83	86	30	56
1984	658	573	490	83	85	29	56
1985	655	570	487	83	85	29	56
1986	648	566	482	84	82	29	53

[1] Estimated. See appendix A, "Estimation Methods."

[2] The projections of full-time instructional staff and the full-time equivalent of part-time instructional staff are based on the following assumptions for each type and control category of institutions of higher education: (a) The ratio of full-time-equivalent enrollment to full-time-equivalent instructional staff will remain constant at the 1976 level through 1986. (b) The percentage that full-time-equivalent senior instructional staff represented of total full-time-equivalent instructional staff will remain constant at the 1976 level through 1986. (c) For junior and senior staff separately, the percentage that full-time instructional staff represented of full-time-equivalent instructional staff in 1976 will remain constant through 1986. (d) Each alternative projection of full-time-equivalent instructional staff is based on the corresponding alternative projection of full-time-equivalent enrollment in table 8.

For methodological details, see appendix A, table A-3.

NOTE.—Because of rounding, details may not add to totals.

SOURCES: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, publications: (1) *Numbers and Characteristics of Employees in Institutions of Higher Education,* fall 1966 and 1967, (2) *Teaching and Research Staff by Academic Fields, Fall 1968,* (3) unpublished data from survey on employees in institutions of higher education, fall 1970, (4) *Numbers of Employees in Institutions of Higher Education, Fall 1972,* and (5) *Employees in Institutions of Higher Education, Fall 1976.*

Table 24.–Estimated demand for full-time-equivalent instructional staff in institutions of higher education, with alternative projections: United States, fall 1971 to 1986

[In thousands]

Year (fall) (1)	Full-time-equivalent instructional staff (2)	Additional full-time-equivalent instructional staff needed: Total (3)	Additional full-time-equivalent instructional staff needed: For enrollment and student-staff ratio changes[1] (4)	Additional full-time-equivalent instructional staff needed: For replacement[2] (5)
1971	458	...	...	...
1972	455	18	–3	21
1973	481	46	26	20
1974	516	57	35	22
1975	574	81	58	23
1976	584	36	10	26
1972-1976	...	238	126	112
	Intermediate alternative projection[3]			
1977	604	46	20	26
1978	608	31	4	27
1979	615	34	7	27
1980	622	35	7	28
1981	624	30	2	28
1977-1981	...	176	40	136
1982	622	26	–2	28
1983	618	24	–4	28
1984	613	23	–5	28
1985	607	22	–6	28
1986	599	19	–8	27
1982-1986	...	114	–25	139
	Low alternative projection[3]			
1977	593	35	9	26
1978	591	25	–2	27
1979	592	28	1	27
1980	592	27	...	27
1981	587	22	–5	27
1977-1981	...	137	3	134
1982	580	19	–7	26
1983	571	17	–9	26
1984	561	16	–10	26
1985	549	13	–12	25
1986	539	15	–10	25
1982-1986	...	80	–48	128

See footnotes at end of table.

Table 24.–Estimated demand for full-time-equivalent instructional staff in institutions of higher education, with alternative projections: United States, fall 1971 to 1986 – Cont.

[In thousands]

Year (fall)	Full-time-equivalent instructional staff	Additional full-time-equivalent instructional staff needed		
		Total	For enrollment and student-staff ratio changes[1]	For replacement[2]
(1)	(2)	(3)	(4)	(5)
	High alternative projection[3]			
1977	611	62	27	35
1978	623	51	14	37
1979	638	52	15	37
1980	651	51	13	38
1981	658	46	7	39
1977-1981	. . .	262	76	186
1982	661	42	3	39
1983	661	40	. . .	40
1984	658	37	–3	40
1985	655	36	–3	39
1986	648	32	–7	39
1982-1986	. . .	187	–10	197

[1] The estimates and projections of additional full-time-equivalent professional staff for increased enrollment and for reduction of the student-staff ratio were computed as the difference between the total full-time-equivalent professional staff employed in 2 successive years.

[2] The estimates of additional full-time-equivalent professional staff for replacement of those leaving the profession, temporarily or permanently, was estimated at 4.5 percent of the total full-time-equivalent professional staff employed in the previous year. Low and intermediate alternative projections of the additional full-time-equivalent instructional staff needed for replacement are also based on a 4.5 percent replacement rate while high alternative projections are based on a 6 percent replacement rate.

[3] The projections of full-time-equivalent instructional staff are those shown in table 23.

For methodological details, see appendix A, table A-3.

NOTE.–Data are for 50 States and the District of Columbia for all years. Because of rounding, details may not add to totals.

SOURCES: U.S. Department to Health, Education, and Welfare, National Center for Education Statistics, publications: (1) *Numbers and Characteristics of Employees in Institutions of Higher Education*, fall 1966 and 1967, (2) *Teaching and Research Staff by Academic Fields, Fall 1968*, (3) unpublished data from survey on employees in institutions of higher education, fall 1970, (4) *Numbers of Employees in Institutions of Higher Education, Fall 1972*, and (5) *Employees in Institutions of Higher Education, Fall 1976.*

Chapter V
EXPENDITURES OF EDUCATIONAL INSTITUTIONS

Forrest W. Harrison and C. George Lind

EXPLANATIONS AND DEFINITIONS

The main tables in this chapter pertain only to expenditures of regular public and nonpublic elementary and secondary schools and institutions of higher education in the 50 States and the District of Columbia. Data on "other" and "special" institutions are not included, except for the references to "other" schools in the discussion below and in table 25.

"*Other*" institutions include elementary and secondary residential schools for exceptional children (public and nonpublic), Federal schools for Indians (public), and federally operated elementary and secondary schools on military posts (public). In 1975-76, estimated expenditures were about $300 million for public and $100 million for nonpublic "other" schools. Almost all "other" schools, including the nonpublic, were nonprofitmaking institutions.

"*Special*" institutions include schools such as trade schools or business colleges not in the regular school or college framework. Expenditure data are not available for "special" schools, but the U.S. Bureau of the Census estimates that approximately 1.4 million persons aged 5 through 34 years were enrolled in "special" schools in October, 1976.[1] If an average expenditure per student of about $1,600 is assumed, the total expenditures for these schools would be about $2.2 billion. Almost all "special" schools are nonpublic, profitmaking institutions.

Regular institutions include public and most nonprofitmaking, nonpublic elementary and secondary schools (kindergarten through grade 12) plus the institutions of higher education offering degree-credit courses, and a small number of technical and professional schools. Most of these schools and colleges are oriented toward regular academic programs, but some offer primarily technical training institutions or both academic and vocational courses.

Total expenditures include all funds expended for capital outlay, current expenditures, and interest. They exclude repayment of debt and transfers of funds that would result in duplication.

Capital outlay includes expenditures which result in additions to plant assets; this includes expenditures by public school building authorities but excludes lease or rental payments made to these agencies. Borrowed money is included; a large percentage of the funds expended for capital outlay was received from loans. In 1973-74, an estimated 84 percent of the capital outlay for public elementary and secondary schools was for land and buildings, the remaining 16 percent for new buses and other equipment. About 75 percent of the capital outlay by institutions of higher education during 1975-76 was for land and buildings; the remaining 25 percent was for equipment.

Current expenditures include any expenditures except those for repayment of debt and capital outlay. Interest is generally excluded from the current expenditures shown here because it is treated separately. The largest current expense item is salaries of instructional staff, accounting for about 60 percent of current expenditures. The remaining 40 percent goes for transportation, maintenance, etc.

Interest includes all funds expended for the use of money. For elementary and secondary schools, most of the interest shown here was expended on account of long-term debt that was incurred for constructing buildings. For institutions of higher education, interest is reported as a component of current expenditures.

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[1] U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-20, No. 303, "School Enrollment–Social and Economic Characteristics of Students: October 1975" (Washington, D.C., U.S. Government Printing Office, 1976).

EXPENDITURES BY SOURCE OF FUNDS

Although no attempt was made to project amounts of funds from the various sources to be expended by educational institutions, estimates based on reported data are shown by source for the past years, 1965-66 through 1975-76. To do this, estimates for "other" schools were added to the total expenditures shown in table 27 for the appropriate years. The resulting total expenditures for regular and "other" schools were then broken down by source of funds by first adjusting receipts to equate them with expenditures and then assuming continuation of the 1965-66 through 1975-76 trend in the amount of receipts from each source. Receipts and expenditures were equated mainly by including loans and excluding the receipts used for repayment of loans.

Total expenditures have been defined as the expenditure of all money from both loans and grants for capital outlay, current expenditures and interest and exclude only the funds used for reducing debt and transfers that result in duplication. Expenditures from Federal, State, and local sources are defined as institutional expenditures of all grants (but not loans) of funds received from these sources. Expenditures from all other sources include all funds received by the institutions that were not received as grants from Federal, State, and local governments. Loans to institutions of higher education from any source are included under "all other." (It is estimated that in 1975-76, $33 million in Federal loans to institutions of higher education was included in the "all other" category shown here.)

Since the foregoing definitions are designed to show sources of funds through the eyes of educational institutions, the Federal figures shown in table 25 are different from those shown in appendix B, table B-6, on Federal funds for education. The three main reasons are as follows:

1. Different items are included. For example, table B-6 shows grants and loans to individuals, which would appear in institutional accounts in table 25 as receipts from tuition or auxiliary services (or the money may be spent for board and room outside the institution and not be a receipt of the institution from any source).

2. The same items may be handled differently. For example, table B-6 shows only basic research for institutions of higher education; in table 25 the institutional figures include some applied research grants from the Federal Government.

3. Table B-6 generally shows obligated funds; the institutional figures in table 25 show expenditures.

TOTAL EXPENDITURES

Regular Institutions

Total annual expenditures of regular educational institutions (in 1976-77 dollars) increased from $70.3 billion in 1963-64 to $128.3 billion in 1975-76 and are expected to reach $153.1 billion in 1986-87 (table 26). The expenditure increases are caused chiefly by the increasing costs of the many items, such as school facilities and salaries of teachers, that are necessary for providing education. The projected total expenditures in table 26 are based mainly on the assumption that the 1963-64 to 1975-76 trend will continue through 1986-87.

Regular Public Elementary and Secondary Schools

Current expenditures. For regular public elementary and secondary schools, projections of current expenditures are obtained by applying projections of current expenditures per pupil in average daily attendance (CE/ADA) in constant dollars to projections of average daily attendance (92 percent of enrollment projections in table 3). This method has been used with considerable success since the 1972 edition of this report. Despite the lack of a complete and current data base, the projections of CE/ADA have been surprisingly accurate. In fact, they have tended to be more accurate than the State estimates. The State estimates were not used in the trend on which projections depend.

No attempt is made to project current expenditures in nonpublic elementary and secondary schools, for which expenditure data are not available. Instead, this publication presents estimates and projections of what the current expenditure in constant dollars would be to educate the nonpublic students at the CE/ADA for public schools and the pupil-teacher ratios of nonpublic schools.

Annual current expenditures for public elementary and secondary schools (in 1976-77 dollars) increased from $33.4 billion in 1963-64 to $66.3 billion in 1975-76, an increase of 98.5 percent (table 26). They are expected to increase 30.0 percent to $86.2 billion by 1986-87.

Increasing past enrollments, together with increasing expenditures per pupil, have accounted for increasing current expenditures. Even with decreases in enrollment, current expenditures are expected to increase, though at a slower rate, in constant dollars for practically all of the major items included in current expenditures, such as administration, instruction, operation and maintenance of plant, fixed charges, and other school services and programs (table 27). Annual current expenditures per pupil (in 1976-77 dollars) increased from $875 in 1963-64 to $1,575 in 1975-76 and are expected to increase to $2,285 by 1986-87 (table 28).

The current expenditures for public elementary and secondary schools in table 28 were projected as follows:

1. Current expenditures per pupil in average daily attendance (ADA) for the base years 1963-64 through 1975-76 were converted to 1976-77 dollars on the basis of the Consumer Price Index prepared by the Bureau of Labor Statistics, U.S. Department of Labor. Monthly index numbers were averaged on a July-June basis to correspond to the school years.

2. The current expenditures per pupil (in 1976-77 dollars) for the years 1963-64 through 1975-76 were used in deriving a formula (by least squares) for projecting trend figures for 1976-77 through 1986-87. This formula was $Y' = \$734 + \$65t$ (t = time in years, $t = 1$ in 1963-64).

3. Average daily attendance was calculated for 1976-77 through 1986-87 by assuming that the ratio of average daily attendance to projected fall enrollment in kindergarten through grade 12 will remain constant at 0.92 through 1986-87, based on the projection of the trend of the past 13 years.

4. Total current expenditures allocated to public elementary and secondary school pupil costs (1976-77 dollars) were projected to 1986-87 by multiplying the current expenditures per pupil, as projected in step 2, by the corresponding average daily attendance projected in step 3. These figures exclude expenditures for summer schools, adult education, and community colleges operated by school districts.

5. Total current expenditures for all programs operated by school districts—including summer schools, adult education, and community colleges—were projected to 1986-87 by assuming that current expenditures for all programs will remain constant at the rate of 102 percent of current expenditures for programs allocated for public elementary and secondary school pupil costs.

6. Current expenditures per pupil allocated to public elementary and secondary school pupil costs were projected to 1986-87 by assuming that the trend of 1963-64 through 1975-76 will continue through 1986-87.

7. Total current expenditures allocated to pupil costs were projected by multiplying the current expenditures per pupil, as projected in step 6, by the corresponding average daily attendance projected in step 3.

8. Total current expenditures for all programs operated by school districts were projected by multiplying the figures in step 7 by 102 percent.

9. Low and high alternative amounts were projected by using alternative enrollment projections shown in table 3, and using the routine outlined above.

A large part of current expenditures for public elementary and secondary schools (amounting to 50 percent in 1973-74) is for salaries of classroom teachers. Estimated total expenditures for these salaries (in 1976-77 dollars) increased from $18.6 billion in 1963-64 to $32.3 billion in 1975-76 and are expected to increase to $39.0 billion in 1986-87 (table 29). These increases are due to changes in the numbers of classroom teachers and to higher average annual salaries.

The average annual salary of classroom teachers (in 1976-77 dollars) increased from $11,790 in 1963-64 to an estimated $14,770 in 1975-76 and is expected to reach $17,900 in 1986-87. During the period 1966-1974, the average annual salary increase was about $248 per year in 1976-77 dollars; however, recently the average has been decreasing. The projected figure for 1986-87 ($17,900) is based on the assumption that the 1965-66 to 1973-74 trend will continue through 1986-87.

The procedure used to project total and average annual salaries of classroom teachers in public elementary and secondary schools in table 29 was as follows:

The average annual salary (Y) (in 1976-77 dollars) was projected as a continuation of the 1965-66 to 1973-74 trend: $Y' = \$11{,}502 + \$291(t)$; ($t$ = time in years, $t = 1$ in 1965-66).

Total expenditures for salaries of classroom teachers were then computed as the product of the average annual salary and the total number of teachers from table 17.

The low and high alternative amounts shown in table 29 are based on the low and high projected numbers of teachers shown in table 17.

Capital outlay. Capital outlay (in 1976-77 dollars) by regular public elementary and secondary schools, including the expenditures of State and local school building authorities, was $39.9 billion for the 5-year period 1966-67 through 1970-71, and $31.2 billion for the following 5-year period 1971-72 through 1975-76 (table 30). It is expected to decrease to $29.3 billion for 1976-77 through 1980-81 and to $25.2 billion for 1981-82 through 1985-86.

Projected expenditures for capital outlay shown in table 30 are not projections of need but are simply projections of the capital outlay expected in light of the trend from 1963-64 through 1975-76.

It should be noted that not all the capital outlay shown in table 30 represents construction. It was estimated, that in 1973-74, 16 percent of capital outlay was for equipment and 84 percent for land and buildings.

A sharp decrease is expected in the number of rooms to be completed because of enrollment changes; however, school buildings will continue to be constructed for other reasons, including (1) replacement, (2) migration factors (including school district reorganization), and (3) reduction of the number of crowded and unsatisfactory rooms.

Interest expenditures. Annual expenditures (in 1976-77 dollars) for interest by public elementary and secondary schools increased from $1.3 billion in 1963-64 to $2.0 billion in 1975-76 and are expected to reach $2.6 billion in 1986-87 (table 31). The projections in table 31 are based on the assumption that the 1963-64 to 1975-76 trend will continue through 1986-87. Although capital outlay is expected to level off or decline in the next decade, this assumption seems reasonable because interest payments continue 20 years or more after construction, resulting in debt being incurred at a greater rate than it is being eliminated. The trend formula used for projecting interest (Y) in 1976-77 dollars is as follows: $Y' = \$1{,}114 \text{ million} + \$62 \text{ million}(t)$; ($t$ = time in years, $t = 1$ in 1965-66).

Nonpublic Elementary and Secondary Schools

Expenditure data for nonpublic elementary and secondary schools comparable with those for public schools are nonexistent. It would be extremely difficult to arrive at a universally accepted method for determining the value of donated services for nonpublic schools, even if data on actual expenditures were collected. These donated services make up a substantial part of nonpublic school resources, especially in the elementary and secondary schools operated by religious orders. In 1976-77, over 62 percent of the almost 211,000 nonpublic school teachers worked in schools affiliated with the Roman Catholic Church, where many of the teachers belong to religious orders.

Although it is difficult to arrive at national estimates of nonpublic school expenditures that everyone will accept, the substantial contribution of nonpublic elementary and secondary schools cannot be ignored when total expenditures for education are being considered. Therefore, illustrative estimates of nonpublic elementary and secondary school expenditures were developed rather arbitrarily and are shown in table 26. They are based on the assumption that the cost per teacher (including donated facilities and services) in nonpublic schools is the same as in the public schools. The formula was as follows: $Y = XP$ (X = ratio of nonpublic to public school teachers and P = public school expenditures). The ratio of nonpublic to public school teachers was around 12 percent during the last 13 years and is expected to be around 11 percent during the next 11 years. The numbers on which these ratios were computed are shown in table 17.

Some previous estimates published by NCES were based on the assumption that per-pupil costs in nonpublic schools were the same as in public schools. Since the average pupil-teacher ratio is higher in nonpublic than in public schools, the previous estimates were higher than those shown here. Both types of estimates are, in a sense, hypothetical, one shows what it would cost to educate nonpublic elementary and secondary school children if they were enrolled in public schools and if the public school pupil-teacher ratio were maintained; the other (tables 26 and 27) shows the cost if the pupil-teacher ratio were maintained at the nonpublic school level. Neither of these hypotheses allows for including nonpublic pupils in public schools where capacity is already available.

Institutions of Higher Education

Current expenditures. Annual current expenditures, excluding transfers, of institutions of higher education (in 1976-77 dollars) increased from $16.6 billion in 1963-64 to $24.3 billion in 1966-67, and reached $40.3 billion in 1976-77 (table 26). These data in constant dollars appear in table 32 and in unadjusted dollars in table 33. Annual projections (in 1976-77 dollars) were calculated by averaging the expenditures per full-time-equivalent student for the most recent 2 years of base period data, 1974-75 and 1975-76, and applying this average expenditure per full-time-equivalent student as a constant multiplier of projected full-time-equivalent students as shown in table 8 as intermediate, low, and high alternative projections. The projections of current expenditures, excluding transfers, for 1986-87 are $42.8 billion as the intermediate alternative, $37.9 billion as the low alternative, and $46.8 billion as the high alternative. The same procedure was applied to the components of current expenditure and results in maintaining the relationship among components and in maintaining a constant expenditure per full-time-equivalent student at the

1974-75–1975-76 average level. When expressed in terms of current expenditure per full-time-equivalent student, the data (in 1976-77 dollars) are as represented in the table below:

Expenditures	1963-64	1966-67	1976-77 and held constant through 1986-87
From current funds per full-time-equivalent student (excluding transfers of funds)			
All institutions	$4,491	$4,781	$4,843
Publicly controlled	3,956	4,138	4,243
Nonpublicly controlled	5,428	6,088	6,782
For student education: Includes instruction, academic support, libraries, student services, institutional support, and operation and maintenance of plant			
All institutions	2,408	2,650	3,040
Publicly controlled	2,169	2,407	2,804
Nonpublicly controlled	2,825	3,146	3,805
For research			
All institutions	731	634	433
Publicly controlled	596	493	369
Nonpublicly controlled	967	923	638
For scholarships and fellowships			
All institutions	162	205	208
Publicly controlled	85	130	133
Nonpublicly controlled	297	358	449
For public service			
All institutions	271	306	230
Publicly controlled	340	347	239
Nonpublicly controlled	149	221	199
For auxiliary enterprises			
All institutions	731	808	575
Publicly controlled	638	687	471
Nonpublicly controlled	892	1,054	913
For hospitals and independent operations			
All institutions	406	399	489
Publicly controlled	298	291	345
Nonpublicly controlled	595	620	954

SOURCE: NCES unpublished data.

Capital outlay. Annual capital outlay of institutions of higher education (in 1976-77 dollars) declined to $5.2 billion for 1975-76, the lowest amount expended annually over the entire base period (table 26). These data in constant dollars appear in table 34. The decline was disproportionately influenced by the nonpublic sector, which reached a peak of $3.0 billion in 1966-67 and decreased to $1.3 billion in 1975-76. The projections are held at the 1975-76 levels with no alternatives.

Interest. For institutions of higher education, interest is reported as a component of current expenditures.

Figure 9.–Total expenditures (1976-77 dollars) by regular elementary and secondary day schools, with alternative projections: United States, 1966-67 to 1986-87

(Data from table 26)

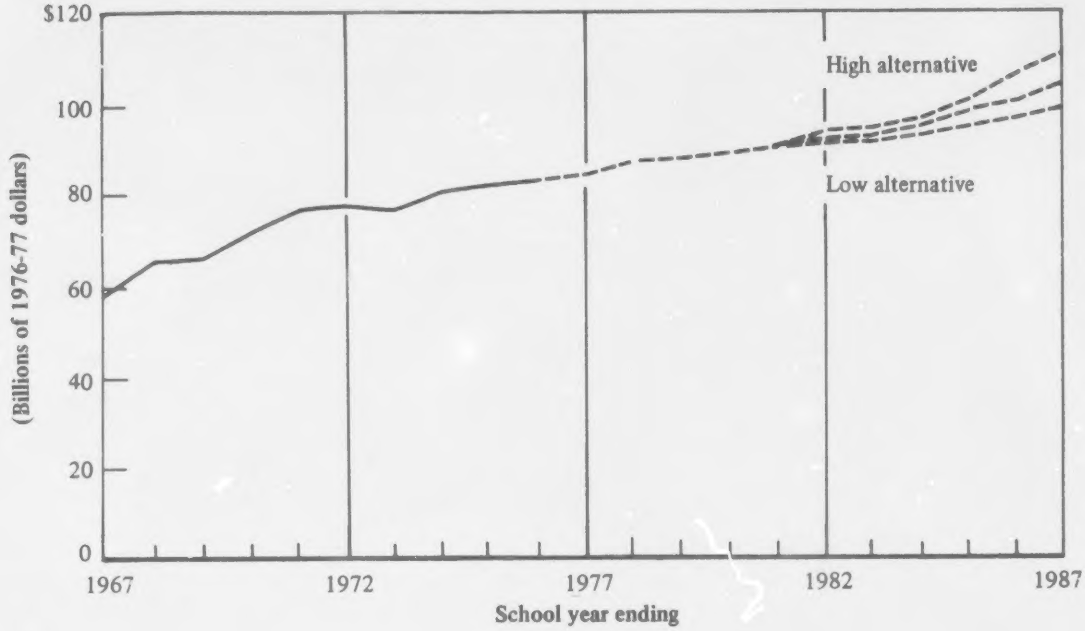

Figure 10.–Total expenditures (1976-77 dollars) by institutions of higher education, with alternative projections: United States, 1966-67 to 1986-87

(Data from table 26)

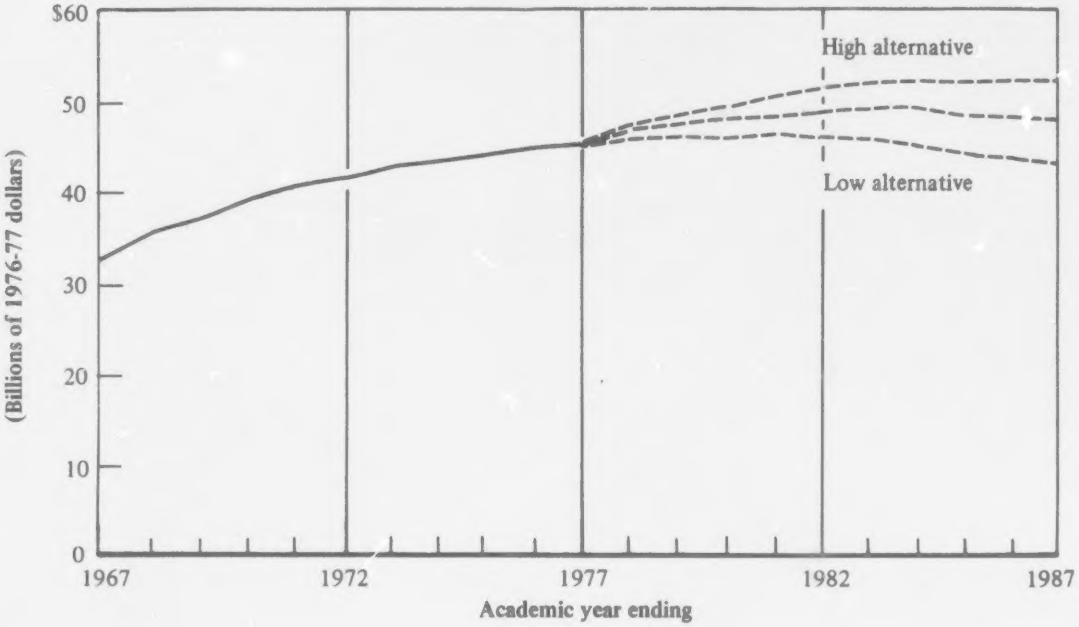

Figure 11.–Percentage distribution of expenditures of regular educational institutions, by instructional level: United States, 1964-65, 1975-76 and 1986-87

(Data from table 26)

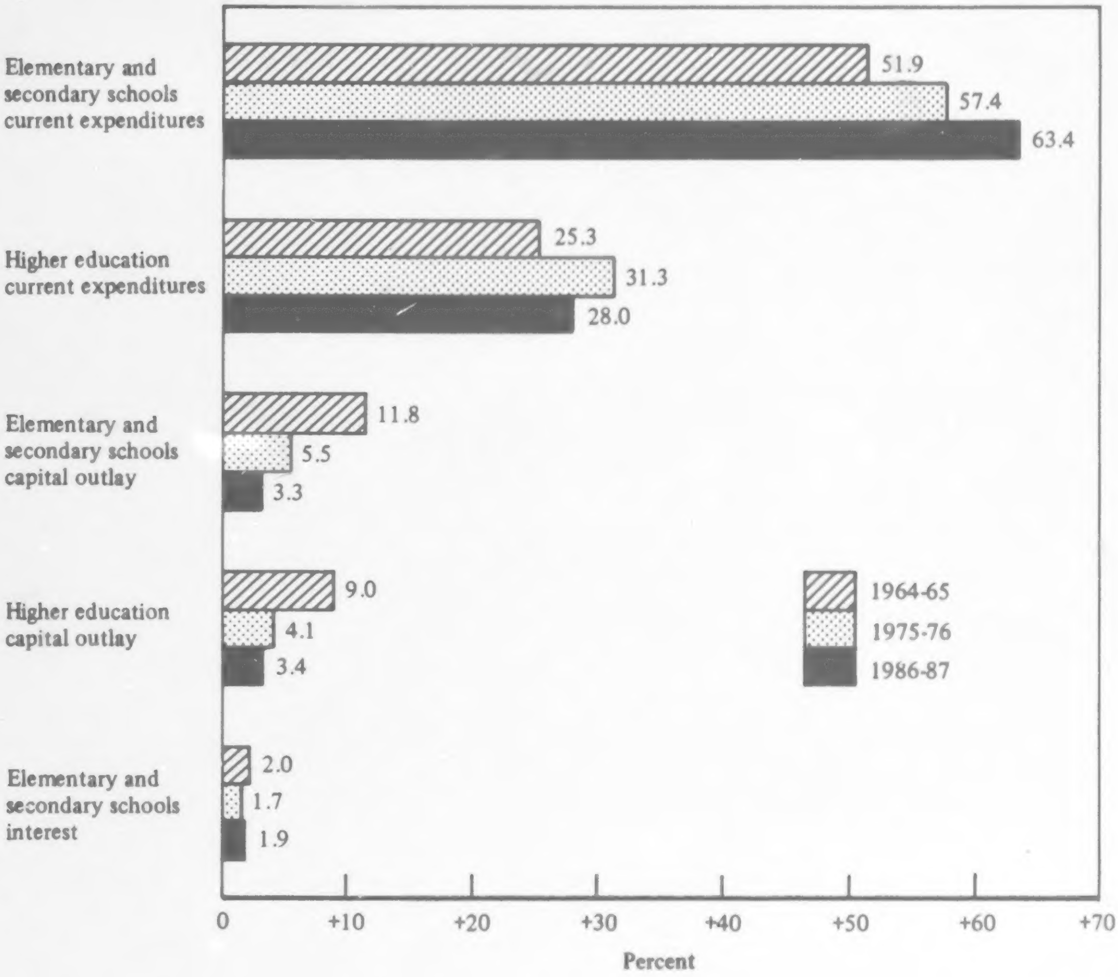

Table 25.–Estimated expenditures by regular and "other" educational institutions, by instructional level and control of institution and source of funds: United States, 1965-66 to 1976-77[1]

Level and control of institution and source of funds (1)	1965-66 (2)	1967-68 (3)	1969-70 (4)	1971-72 (5)	1973-74 (6)	1974-75 (7)	1975-76 (8)	1976-77 (9)
	AMOUNT, billions of current, unadjusted dollars							
All levels:								
Total, public and nonpublic	$ 45.2	$ 57.2	$ 70.4	$ 83.0	$ 98.0	$ 111.1	$ 121.8	$ 131.0
Federal	5.0	6.8	7.5	9.2	10.2	12.1	13.0	14.4
State	13.1	16.9	22.2	25.8	33.3	38.7	43.9	47.5
Local	15.1	18.6	22.6	26.7	29.8	33.2	35.1	37.1
All other	12.0	14.9	18.1	21.3	24.7	27.1	29.8	32.0
Total, public	35.3	45.5	56.8	67.4	80.1	91.3	100.2	107.6
Federal	3.6	5.1	5.8	7.4	8.3	9.8	10.5	11.7
State	13.0	16.8	22.1	25.6	33.0	38.4	43.6	47.2
Local	15.1	18.6	22.5	26.6	29.7	33.1	35.0	37.0
All other	3.6	5.0	6.4	7.8	9.1	10.0	11.1	11.7
Total, nonpublic	9.9	11.7	13.6	15.6	17.9	19.8	21.6	23.4
Federal	1.4	1.7	1.7	1.8	1.9	2.3	2.5	2.7
State	.1	.1	.1	.2	.3	.3	.3	.3
Local	(2)	(2)	.1	.1	.1	.1	.1	.1
All other	8.4	9.9	11.7	13.5	15.6	17.1	18.7	20.3
Elementary and secondary schools:								
Total, public and nonpublic	30.0	37.3	45.7	53.8	63.7	72.2	79.1	85.5
Federal	2.1	3.0	3.4	4.6	5.1	6.0	6.5	7.4
State	9.6	12.1	15.8	18.0	23.6	27.2	31.1	34.0
Local	14.7	18.0	21.7	25.6	28.4	31.7	33.4	35.3
All other	3.6	4.2	4.8	5.6	6.6	7.3	8.1	8.8
Total, public[3]	26.5	33.2	41.0	48.3	57.2	65.0	71.1	76.8
Federal	2.1	3.0	3.4	4.6	5.1	6.0	6.5	7.4
State	9.6	12.1	15.8	18.0	23.6	27.2	31.1	34.0
Local	14.7	18.0	21.7	25.6	28.4	31.7	33.4	35.3
All other	.1	.1	.1	.1	.1	.1	.1	.1
Total, nonpublic	3.5	4.1	4.7	5.5	6.5	7.2	8.0	8.7
Federal	...	...	...	...	...	...	...	...
State	...	...	...	...	...	...	...	...
Local	...	...	...	...	...	...	...	...
All other	3.5	4.1	4.7	5.5	6.5	7.2	8.0	8.7

See footnotes at end of table.

Table 25.–Estimated expenditures by regular and "other" educational institutions, by instructional level and control of institution and source of funds: United States, 1965-66 to 1976-77[1] – Cont.

Level and control of institution and source of funds (1)	1965-66 (2)	1967-68 (3)	1969-70 (4)	1971-72 (5)	1973-74 (6)	1974-75 (7)	1975-76 (8)	1976-77 (9)
			AMOUNT, billions of current, unadjusted dollars					
Institutions of higher education:								
Total, public and nonpublic	15.2	19.9	24.7	29.2	34.3	38.9	42.7	45.5
Federal	2.9	3.8	4.1	4.6	5.1	6.1	6.5	7.0
State	3.5	4.8	6.4	7.8	9.7	11.5	12.8	13.5
Local	.4	.6	.9	1.1	1.4	1.5	1.7	1.8
All other	8.4	10.7	13.3	15.7	18.1	19.8	21.7	23.2
Total, public[3]	8.8	12.3	15.8	19.1	22.9	26.3	29.1	30.8
Federal	1.5	2.1	2.4	2.8	3.2	3.8	4.0	4.3
State	3.4	4.7	6.3	7.6	9.4	11.2	12.5	13.2
Local	.4	.6	.8	1.0	1.3	1.4	1.6	1.7
All other	3.5	4.9	6.3	7.7	9.0	9.9	11.0	11.6
Total, nonpublic[3]	6.4	7.6	8.9	10.1	11.4	12.6	13.6	14.7
Federal	1.4	1.7	1.7	1.8	1.9	2.3	2.5	2.7
State	.1	.1	.1	.2	.3	.3	.3	.3
Local	(2)	(2)	.1	.1	.1	.1	.1	.1
All other	4.9	5.8	7.0	8.0	9.1	9.9	10.7	11.6
				PERCENT				
All levels:								
Total, public and nonpublic	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Federal	11.1	11.9	10.7	11.1	10.4	10.9	10.7	10.4
State	29.0	29.5	31.5	31.1	33.9	34.8	36.0	33.9
Local	33.4	32.5	32.1	32.2	30.5	29.9	28.8	30.5
All other	26.5	26.1	25.7	25.6	25.2	24.4	24.5	25.2
Total, public	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Federal	10.2	11.2	10.2	11.0	10.4	10.7	10.5	10.9
State	36.8	36.9	38.9	38.0	41.1	42.1	43.5	43.8
Local	42.8	40.9	39.6	39.4	37.2	36.3	34.9	34.4
All other	10.2	11.0	11.3	11.6	11.3	10.9	11.1	10.9
Total, nonpublic	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Federal	14.1	14.5	12.5	11.5	10.6	11.6	11.6	11.5
State	1.0	.9	.7	1.3	1.7	1.5	1.4	1.3
Local	(4)	(4)	.7	.7	.6	.5	.4	.4
All other	84.9	84.6	86.1	86.5	87.1	86.4	86.6	86.8

See footnotes at end of table.

Table 25.–Estimated expenditures by regular and "other" educational institutions, by instructional level and control of institution and source of funds: United States, 1965-66 to 1976-77[1] – Cont.

Level and control of institution and source of funds (1)	1965-66 (2)	1967-68 (3)	1969-70 (4)	1971-72 (5)	1973-74 (6)	1974-75 (7)	1975-76 (8)	1976-77 (9)
					PERCENT			
Elementary and secondary schools:								
Total, public and nonpublic	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Federal	7.0	8.0	7.4	8.5	8.0	8.3	8.2	8.6
State	32.0	32.4	34.6	33.5	37.0	37.7	39.3	39.8
Local	49.0	48.3	47.5	47.6	44.7	43.9	42.2	41.3
All other	12.0	11.3	10.5	10.4	10.3	10.1	10.3	10.3
Total, public	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Federal	8.0	9.0	8.2	9.1	8.8	9.3	9.2	9.6
State	36.3	36.5	38.6	37.2	41.2	41.9	43.7	44.3
Local	55.3	54.2	52.9	53.5	49.8	48.7	47.0	46.0
All other	.4	.3	.3	.2	.2	.1	1	.1
Total, nonpublic	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Federal	...	...	...	...	...	...	...	...
State	...	...	...	...	...	...	...	...
Local	...	...	...	...	...	...	...	...
All other	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Institutions of higher education:								
Total, public and nonpublic	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Federal	19.1	19.1	16.6	15.7	14.9	15.7	15.2	15.4
State	23.0	24.1	25.9	26.7	28.3	29.6	30.0	29.7
Local	2.6	3.0	3.6	3.8	4.1	3.8	4.0	3.9
All other	55.3	53.8	53.9	53.8	52.7	50.9	50.8	51.0
Total, public	100 0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Federal	17.6	17.3	14.9	14.7	14.1	14.6	13.8	13.8
State	38.4	38.2	39.7	39.7	41.1	42.5	43.0	43.0
Local	4.1	4.6	5.1	5.4	5.5	5.4	5.4	5.4
All other	39.9	39.9	40.3	40.2	39.3	37.5	37.8	37.8
Total, nonpublic	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Federal	22.1	22.1	18.8	18.3	17.1	18.2	18.1	18.1
State	1.5	1.3	1.6	2.0	2.5	2.1	2.3	2.3
Local	.1	.3	.7	.5	.6	.7	.8	.8
All other	76.3	76.3	78.9	79.2	79.8	79.0	78.8	78.8

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[1] In addition to regular schools (shown in table 27) these figures include "other" elementary and secondary schools such as residential schools for exceptional children, Federal schools for Indians, and federally operated elementary and secondary schools on military posts. The annual expenditures of "other" elementary and secondary schools were estimated as follows: Public, $200 million annually, 1965-66 to 1974-75 and $300 million annually, 1975-76 and 1976-77; nonpublic, $100 million annually, 1965-66 to 1976-77.

[2] Less than $50 million.

[3] Total expenditures distributed according to the trend of receipts shown in appendix B, table B-5. See text for more complete explanation.

[4] Less than 0.05 percent.

NOTE.–Data are for 50 States and the District of Columbia for all years.

SOURCES: Data for the table above were based on (1) statistics shown in U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, publications: (a) *Statistics of State School Systems*, biennially, 1965-66 through 1973-74, (b) *Revenues and Expenditures for Public Elementary and Secondary Education*, 1974-75 and 1975-76, (c) *Finanical Statistics of Institutions of Higher Education*, annually, 1965-66 through 1975-76; and (2) unpublished data in the National Center for Education Statistics.

Table 26.—Expenditures (1976-77 dollars) of regular educational institutions, with alternative projections, by instructional level and control of institution: United States, 1963-64 to 1986-87

[In billions of 1976-77 dollars]

Year and control	Total (all levels)	Elementary and secondary schools[1] (nonpublic school expenditures estimated on the basis of expenditures per teacher in public schools)				Institutions of higher education[2]		
		Total	Current expenditures[3]	Capital outlay[4]	Interest[5]	Total	Current expenditures[6]	Capital outlay[7]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1963-64:								
Total	$ 70.3	$ 47.7	$ 37.9	$ 8.3	$ 1.5	$ 22.6	$ 16.6	$ 6.0
Public	55.0	42.0	33.4	7.3	1.3	13.0	9.3	3.7
Nonpublic	15.3	5.7	4.5	1.0	.2	9.6	7.3	2.3
1964-65:								
Total	74.8	49.2	38.8	8.8	1.6	25.6	18.9	6.7
Public	57.8	43.5	34.3	7.8	1.4	14.3	10.5	3.8
Nonpublic	17.0	5.7	4.5	1.0	.2	11.3	8.4	2.9
1965-66:								
Total	85.3	56.0	44.6	9.7	1.7	29.3	21.8	7.5
Public	66.6	49.6	39.5	8.6	1.5	17.0	12.2	4.8
Nonpublic	18.7	6.4	5.1	1.1	.2	12.3	9.6	2.7
1966-67:								
Total	91.4	58.5	46.8	9.8	1.9	32.9	24.3	8.6
Public	71.7	52.0	41.6	8.7	1.7	19.7	14.1	5.6
Nonpublic	19.7	6.5	5.2	1.1	.2	13.2	10.2	3.0
1967-68:								
Total	100.7	64.8	53.0	9.9	1.9	35.9	27.3	8.6
Public	80.0	57.8	47.3	8.8	1.7	22.2	16.6	5.6
Nonpublic	20.7	7.0	5.7	1.1	.2	13.7	10.7	3.0
1968-69:								
Total	103.2	66.1	54.3	9.9	1.9	37.1	29.4	7.7
Public	83.1	59.3	48.7	8.9	1.7	23.8	18.1	5.7
Nonpublic	20.1	6.8	5.6	1.0	.2	13.3	11.3	2.0
1969-70:								
Total	110.9	71.6	60.4	9.2	2.0	39.3	31.6	7.7
Public	89.5	64.3	54.2	8.3	1.8	25.2	19.7	5.5
Nonpublic	21.4	7.3	6.2	.9	.2	14.1	11.9	2.2
1970-71:								
Total	116.9	76.1	64.8	9.1	2.2	40.8	33.7	7.1
Public	95.0	68.4	58.2	8.2	2.0	26.6	21.5	5.1
Nonpublic	21.9	7.7	6.6	.9	.2	14.2	12.2	2.0
1971-72:								
Total	118.8	77.0	67.6	7.2	2.2	41.8	35.5	6.3
Public	96.7	69.3	60.8	6.5	2.0	27.4	22.8	4.6
Nonpublic	22.1	7.7	6.8	.7	.2	14.4	12.7	1.7

See footnotes at end of table.

Table 26.–Expenditures (1976-77 dollars) of regular educational institutions, with alternative projections, by instructional level and control of institution: United States, 1963-64 to 1986-87 – Cont.

[In billions of 1976-77 dollars]

Year and control (1)	Total (all) levels) (2)	Elementary and secondary schools[1] (nonpublic school expenditures estimated on the basis of expenditures per teacher in public schools)				Institutions of higher education[2]		
		Total (3)	Current expend-itures[3] (4)	Capital outlay[4] (5)	Interest[5] (6)	Total (7)	Current expend-itures[6] (8)	Capital outlay[7] (9)
1972-73:								
Total	120.3	77.3	68.8	6.1	2.4	43.0	37.5	5.5
Public	98.0	69.6	61.9	5.5	2.2	28.4	24.3	4.1
Nonpublic	22.3	7.7	6.9	.6	.2	14.6	13.2	1.4
1973-74:								
Total	123.5	80.3	71.3	6.9	2.1	43.2	37.7	5.5
Public	101.3	72.3	64.2	6.2	1.9	29.0	24.9	4.1
Nonpublic	22.2	8.0	7.1	.7	.2	14.2	12.8	1.4
1974-75:								
Total	126.3	82.1	72.5	7.4	2.2	44.2	38.6	5.6
Public	103.9	74.0	65.3	6.7	2.0	29.9	25.8	4.1
Nonpublic	22.4	8.1	7.2	.7	.2	14.3	12.8	1.5
1975-76:								
Total	128.3	83.0	73.7	7.1	2.2	45.3	40.1	5.2
Public	105.6	74.7	66.5	6.4	2.0	30.9	27.0	3.9
Nonpublic	22.7	8.3	7.4	.7	.2	14.4	13.1	1.3
		Intermediate alternative projection						
1976-77:								
Total	$130.6	$ 85.1	$ 76.0	$ 6.9	$ 2.2	$ 45.5	$ 40.3	$ 5.2
Public	107.3	76.5	68.3	6.2	2.0	30.8	26.9	3.9
Nonpublic	23.3	8.6	7.7	.7	.2	14.7	13.4	1.3
1977-78:								
Total	133.3	86.5	77.6	6.7	2.2	46.8	41.6	5.2
Public	109.6	77.7	69.7	6.0	2.0	31.9	28.0	3.9
Nonpublic	23.7	8.8	7.9	.7	.2	14.9	13.6	1.3
1978-79:								
Total	135.5	88.1	79.2	6.6	2.3	47.4	42.2	5.2
Public	111.4	78.9	70.9	5.9	2.1	32.5	28.6	3.9
Nonpublic	24.1	9.2	8.3	.7	.2	14.9	13.6	1.3
1979-80:								
Total	137.6	89.6	80.7	6.4	2.5	48.0	42.8	5.2
Public	113.1	80.0	72.1	5.7	2.2	33.1	29.2	3.9
Nonpublic	24.5	9.6	8.6	.7	.3	14.9	13.6	1.3
1980-81:								
Total	139.3	90.7	82.0	6.2	2.5	48.6	43.4	5.2
Public	114.5	80.8	73.1	5.5	2.2	33.7	29.8	3.9
Nonpublic	24.8	9.9	8.9	.7	.3	14.9	13.6	1.3

See footnotes at end of table.

Table 25.–Expenditures (1976-77 dollars) of regular educational institutions, with alternative projections, by instructional level and control of institution: United States, 1963-64 to 1986-87 – Cont.

[In billions of 1976-77 dollars]

Year and control	Total (all levels)	Elementary and secondary schools[1] (nonpublic school expenditures estimated on the basis of expenditures per teacher in public schools)				Institutions of higher education[2]		
		Total	Current expend-itures[3]	Capital outlay[4]	Interest[5]	Total	Current expend-itures[6]	Capital outlay[7]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1981-82:								
Total	141.4	92.4	83.7	6.1	2.6	49.0	43.8	5.2
Public	116.2	82.1	74.4	5.4	2.3	34.1	30.2	3.9
Nonpublic	25.2	10.3	9.3	.7	.3	14.9	13.6	1.3
1982-83:								
Total	142.7	93.7	85.1	5.9	2.7	49.0	43.8	5.2
Public	117.5	83.2	75.6	5.2	2.4	34.3	30.4	3.9
Nonpublic	25.2	10.5	9.5	.7	.3	14.7	13.4	1.3
1983-84:								
Total	144.8	95.8	87.5	5.6	2.7	49.0	43.8	5.2
Public	119.5	85.0	77.6	5.0	2.4	34.5	30.6	3.9
Nonpublic	25.3	10.8	9.9	.6	.3	14.5	13.2	1.3
1984-85:								
Total	147.1	98.5	90.2	5.5	2.8	48.6	43.4	5.2
Public	121.8	87.4	80.0	4.9	2.5	34.4	30.5	3.9
Nonpublic	25.3	11.1	10.2	.6	.3	14.2	12.9	1.3
1985-86:								
Total	149.9	101.5	93.4	5.3	2.8	48.4	43.2	5.2
Public	124.5	90.1	82.9	4.7	2.5	34.4	30.5	3.9
Nonpublic	25.4	11.4	10.5	.6	.3	14.0	12.7	1.3
1986-87:								
Total	153.1	105.1	97.1	5.1	2.9	48.0	42.8	5.2
Public	127.7	93.3	86.2	4.5	2.6	34.4	30.5	3.9
Nonpublic	25.4	11.8	10.9	.6	.3	13.6	12.3	1.3
				Low alternative projection				
1976-77:								
Total	$130.6	$ 85.1	$ 76.0	$ 6.9	$ 2.2	$ 45.5	$ 40.3	$ 5.2
Public	107.3	76.5	68.3	6.2	2.0	30.8	26.9	3.9
Nonpublic	23.3	8.6	7.7	.7	.2	14.7	13.4	1.3
1977-78:								
Total	132.8	86.5	77.6	6.7	2.2	46.3	41.1	5.2
Public	109.2	77.7	69.7	6.0	2.0	31.5	27.6	3.9
Nonpublic	23.6	8.8	7.9	.7	.2	14.8	13.5	1.3
1978-79:								
Total	134.4	88.1	79.2	6.6	2.3	46.3	41.1	5.2
Public	110.6	78.9	70.9	5.9	2.1	31.7	27.8	3.9
Nonpublic	23.8	9.2	8.3	.7	.2	14.6	13.3	1.3
1979-80:								
Total	135.9	89.6	80.7	6.4	2.5	46.3	41.1	5.2
Public	111.9	80.0	72.1	5.7	2.2	31.9	28.0	3.9
Nonpublic	24.0	9.6	8.6	.7	.3	14.4	13.1	1.3

See footnotes at end of table.

Table 26.–Expenditures (1976-77 dollars) of regular educational institutions, with alternative projections, by instructional level and control of institution: United States, 1963-64 to 1986-87 – Cont.

[In billions of 1976-77 dollars]

Year and control (1)	Total (all levels) (2)	Elementary and secondary schools[1] (nonpublic school expenditures estimated on the basis of expenditures per teacher in public schools): Total (3)	Current expend-itures[3] (4)	Capital outlay[4] (5)	Interest[5] (6)	Institutions of higher education[2]: Total (7)	Current expend-itures[6] (8)	Capital outlay[7] (9)
1980-81:								
Total	137.1	90.7	82.0	6.2	2.5	46.4	41.2	5.2
Public	112.9	80.8	73.1	5.5	2.2	32.1	28.2	3.9
Nonpublic	24.2	9.9	8.9	.7	.3	14.3	13.0	1.3
1981-82:								
Total	138.3	92.2	83.5	6.1	2.6	46.1	40.9	5.2
Public	113.9	81.9	74.2	5.4	2.3	32.0	28.1	3.9
Nonpublic	24.4	10.3	9.3	.7	.3	14.1	12.8	1.3
1982-83:								
Total	139.2	93.3	84.7	5.9	2.7	45.9	40.7	5.2
Public	114.7	82.8	75.2	5.2	2.4	31.9	28.0	3.9
Nonpublic	24.5	10.5	9.5	.7	.3	14.0	12.7	1.3
1983-84:								
Total	139.7	94.3	86.0	5.6	2.7	45.4	40.2	5.2
Public	115.4	83.7	76.3	5.0	2.4	31.7	27.8	3.9
Nonpublic	24.3	10.6	9.7	.6	.3	13.7	12.4	1.3
1984-85:								
Total	140.5	96.0	87.7	5.5	2.8	44.5	39.3	5.2
Public	116.4	85.2	77.8	4.9	2.5	31.2	27.3	3.9
Nonpublic	24.1	10.8	9.9	.6	.3	13.3	12.0	1.3
1985-86:								
Total	141.7	97.9	89.8	5.3	2.8	43.8	38.6	5.2
Public	117.7	86.9	79.7	4.7	2.5	30.8	26.9	3.9
Nonpublic	24.0	11.0	10.1	.6	.3	13.0	11.7	1.3
1986-87:								
Total	143.2	100.1	92.1	5.1	2.9	43.1	37.9	5.2
Public	119.3	88.9	81.8	4.5	2.6	30.4	26.5	3.9
Nonpublic	23.9	11.2	10.3	.6	.3	12.7	11.4	1.3
				High alternative projection				
1976-77:								
Total	$130.6	$ 85.1	$ 76.0	$ 6.9	$ 2.2	$ 45.5	$ 40.3	$ 5.2
Public	107.3	76.5	68.3	6.2	2.0	30.8	26.9	3.9
Nonpublic	23.3	8.6	7.7	.7	.2	14.7	13.4	1.3
1977-78:								
Total	133.8	86.5	77.6	6.7	2.2	47.3	42.1	5.2
Public	110.1	77.7	69.7	6.0	2.0	32.4	28.5	3.9
Nonpublic	23.7	8.8	7.9	.7	.2	14.9	13.6	1.3
1978-79:								
Total	136.6	88.1	79.2	6.6	2.3	48.5	43.3	5.2
Public	112.3	78.9	70.9	5.9	2.1	33.4	29.5	3.9
Nonpublic	24.3	9.2	8.3	.7	.2	15.1	13.8	1.3
1979-80:								
Total	139.3	89.6	80.7	6.4	2.5	49.7	44.5	5.2
Public	114.4	80.0	72.1	5.7	2.2	34.4	30.5	3.9
Nonpublic	24.9	9.6	8.6	.7	.3	15.3	14.0	1.3

See footnotes at end of table.

Table 26.–Expenditures (1976-77 dollars) of regular educational institutions, with alternative projections, by instructional level and control of institution: United States, 1963-64 to 1986-87 – Cont.

[In billions of 1976-77 dollars]

Year and control	Total (all) levels)	Elementary and secondary schools[1] (nonpublic school expenditures estimated on the basis of expenditures per teacher in public schools)				Institutions of higher education[2]		
		Total	Current expend-itures[3]	Capital outlay[4]	Interest[5]	Total	Current expend-itures[6]	Capital outlay[7]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1980-81:								
Total	141.3	90.7	82.0	6.2	2.5	50.6	45.4	5.3
Public	116.1	80.8	73.1	5.5	2.2	35.3	31.4	3.9
Nonpublic	25.2	9.9	8.9	.7	.3	15.3	14.0	1.3
1981-82:								
Total	143.9	92.6	83.9	6.1	2.6	51.3	46.1	5.2
Public	118.3	82.3	74.6	5.4	2.3	36.0	32.1	3.9
Nonpublic	25.6	10.3	9.3	.7	.3	15.3	14.0	1.3
1982-83:								
Total	146.5	94.6	86.0	5.9	2.7	51.9	46.7	5.2
Public	120.6	84.0	76.4	5.2	2.4	36.6	32.7	3.9
Nonpublic	25.9	10.6	9.6	.7	.3	15.3	14.0	1.3
1983-84:								
Total	149.8	97.7	89.4	5.6	2.7	52.1	46.9	5.2
Public	123.8	86.7	79.3	5.0	2.4	37.1	33.2	3.9
Nonpublic	26.0	11.0	10.1	.6	.3	15.0	13.7	1.3
1984-85:								
Total	153.9	101.7	93.4	5.5	2.8	52.2	47.0	5.2
Public	127.7	90.3	82.9	4.9	2.5	37.4	33.5	3.9
Nonpublic	26.2	11.4	10.5	.6	.3	14.8	13.5	1.3
1985-86:								
Total	158.9	106.6	98.5	5.3	2.8	52.3	47.1	5.2
Public	132.3	94.6	87.4	4.7	2.5	37.7	33.8	3.9
Nonpublic	26.6	12.0	11.1	.6	.3	14.6	13.3	1.3
1986-87:								
Total	163.9	111.9	103.9	5.1	2.9	52.0	46.8	5.2
Public	137.4	99.4	92.3	4.5	2.6	38.0	34.1	3.9
Nonpublic	26.5	12.5	11.6	.6	.3	14.0	12.7	1.3

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[1] Excludes expenditures for residential schools for exceptional children, subcollegiate departments of institutions of higher education, Federal schools for Indians, and federally operated schools on Federal installations. See table 25 on expenditures by source of funds (in current dollars) for data on these schools. All nonpublic elementary and secondary school expenditures shown here are estimated on the basis of expenditures per teacher in public elementary and secondary schools.

[2] Includes expenditures for subcollegiate departments of institutions of higher education, estimated at $95 million in 1975-76. Excludes expenditures for interest paid from plant funds. (An estimated $400 million was expended for total interest in 1975-76.)

[3] Includes current expenditures of public elementary and secondary school systems for community services, summer schools, community colleges, and adult education.

[4] Includes capital outlay of State and local school building authorities.

[5] Interest for nonpublic schools is based on interest for public schools.

[6] Includes expenditures for interest from current funds. Excludes transfers from current funds.

[7] The estimated annual capital outlay data shown here include estimated expenditures for replacement and rehabilitation.

NOTE.–Data are for 50 States and the District of Columbia.

SOURCES: Data are a summary of tables 28 through 34, each of which indicates sources of data.

Table 27.–Expenditures (current dollars) of regular educational institutions, by instructional level and control of institution: United States, 1963-64 to 1975-76

[In billions of current, unadjusted dollars]

Year and control	Total (all levels)	Elementary and secondary schools[1] (nonpublic school expenditures estimated on the basis of expenditures per teacher in public schools)				Institutions of higher education[2]		
		Total	Current expenditures[3]	Capital outlay[4]	Interest[5]	Total	Current expenditures[6]	Capital outlay[7]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1963-64:								
Total	$ 35.5	$24.2	$20.0	$ 3.4	$ 0.8	$11.3	$ 8.8	$ 2.5
Public	27.7	21.3	17.6	3.0	.7	6.4	4.9	1.5
Nonpublic	7.8	2.9	2.4	.4	.1	4.9	3.9	1.0
1964-65:								
Total	38.2	25.3	20.8	3.7	.8	12.9	10.1	2.8
Public	29.6	22.4	18.4	3.3	.7	7.2	5.6	1.6
Nonpublic	8.6	2.9	2.4	.4	.1	5.7	4.5	1.2
1965-66:								
Total	44.9	29.7	24.5	4.3	.9	15.2	11.9	$ 3.3
Public	35.1	26.3	21.7	3.8	.8	8.8	6.7	2.1
Nonpublic	9.8	3.4	2.8	.5	.1	6.4	5.2	1.2
1966-67:								
Total	49.1	31.6	26.1	4.5	1.0	17.5	13.6	3.9
Public	38.5	28.1	23.2	4.0	.9	10.4	7.9	2.5
Nonpublic	10.6	3.5	2.9	.5	.1	7.1	5.7	1.4
1967-68:								
Total	56.9	37.0	31.1	4.8	1.1	19.[illegible]	15.8	4.1
Public	45.3	33.0	27.7	4.3	1.0	12.3	9.6	2.7
Nonpublic	11.6	4.0	3.4	.5	.1	7.6	6.2	1.4
1968-69:								
Total	61.2	39.2	32.9	5.2	1.1	22.0	17.9	4.1
Public	[illegible]	35.2	29.5	4.7	1.0	14.0	11.0	3.0
Nonpublic	12.0	4.0	3.4	.5	.1	8.0	6.9	1.1
1969-70:								
Total	70.1	45.4	38.9	5.2	1.3	24.7	20.3	4.4
Public	56.6	40.8	34.9	4.7	1.2	15.8	12.7	3.1
Nonpublic	13.5	4.6	4.0	.5	.1	8.9	7.6	1.3
1970-71:								
Total	78.4	51.3	44.1	5.7	1.5	27.1	22.8	4.3
Public	63.7	46.0	39.6	5.1	1.3	17.7	14.6	3.1
Nonpublic	14.7	5.3	4.5	.6	.2	9.4	8.2	1.2

See footnotes at end of table.

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Table 27.–Expenditures (current dollars) of regular educational institutions, by instructional level and control of institution: United States, 1963-64 to 1975-76 – Cont.

[In billions of current, unadjusted dollars]

Year and control (1)	Total (all) levels) (2)	Elementary and secondary schools[1] (nonpublic school expenditures estimated on the basis of expenditures per teacher in public schools)				Institutions of higher education[2]		
		Total (3)	Current expend-itures[3] (4)	Capital outlay[4] (5)	Interest[5] (6)	Total (7)	Current expend-itures[6] (8)	Capital outlay[7] (9)
1971-72:								
Total	82.7	53.5	46.9	5.0	1.6	29.2	24.9	4.3
Public	67.2	48.1	42.2	4.5	1.4	19.1	16.0	3.1
Nonpublic	15.5	5.4	4.7	.5	.2	10.1	8.9	1.2
1972-73:								
Total	87.8	56.4	49.9	4.7	1.8	31.4	27.3	4.1
Public	71.3	50.6	44.9	4.1	1.6	20.7	17.7	3.0
Nonpublic	16.5	5.8	5.0	.6	.2	10.7	9.6	1.1
1973-74:								
Total	97.7	63.4	56.1	5.6	1.7	34.3	29.9	4.4
Public	79.9	57.0	50.5	5.0	1.5	22.9	19.7	3.2
Nonpublic	17.8	6.4	5.6	.6	.2	11.4	10.2	1.2
1974-75:								
Total	110.8	71.9	63.7	6.3	1.9	38.9	34.1	4.8
Public	91.1	64.8	57.4	5.7	1.7	26.3	22.8	3.5
Nonpublic	19.7	7.1	6.3	.6	.2	12.6	11.3	1.3
1975-76:								
Total	121.4	78.7	70.0	6.6	2.1	42.7	37.9	4.8
Public	99.9	70.8	63.0	5.9	1.9	29.1	25.5	3.6
Nonpublic	21.5	7.9	7.0	.7	.2	13.6	12.4	1.2

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[1] Excludes expenditures for residential schools for exceptional children, subcollegiate departments of institutions of higher education, Federal schools for Indians, and federally operated schools on Federal installations. See table 25 on expenditures by source of funds for data on these schools. All nonpublic elementary and secondary school expenditures shown here are estimated on the basis of expenditures per teacher in public elementary and secondary schools.

[2] Includes expenditures for subcollegiate departments of institutions of higher education, estimated at $95 million in 1975-76. Excludes expenditures for interest paid from plant funds. (An estimated $400 million was expended for total interest in 1975-76.)

[3] Includes current expenditures of public elementary and secondary school systems for community services, summer schools, community colleges, and adult education.

[4] Includes capital outlay of State and local school building authorities.

[5] Interest for nonpublic schools is based on interest for public schools.

[6] Includes expenditures for interest from current funds. Excludes transfers from current funds.

[7] The estimated annual capital outlay data shown here include estimated expenditures for replacement and rehabilitation.

NOTE.–Data are for 50 States and the District of Columbia.

SOURCES: Data are a summary of tables 28 through 34, each of which indicates sources of data.

Table 28.–Current expenditures of public school systems, with alternative projections: United States, 1963-64 to 1986-87

Year	Average daily attendance (in thousands)	Allocated to pupil costs[1]				All programs[2] Total (in billions)	
		Per pupil in average daily attendance		Total (in billions)			
(1)	(2)	Current dollars (3)	1976-77 dollars (4)	Current dollars (5)	1976-77 dollars (6)	Current dollars (7)	1976-77 dollars (8)
1963-64	37,405	$ [3]460	$ [3]875	$17.2	$32.7	$17.6	$33.4
1964-65[3]	38,301	468	879	17.9	33.7	18.4	34.3
1965-66	39,154	537	988	21.1	38.7	21.7	39.5
1966-67[3]	40,192	569	1,014	22.9	40.8	23.2	41.6
1967-68	40,828	658	1,136	26.9	46.4	27.7	47.3
1968-69[3]	41,639	696	1,147	29.0	47.8	29.5	48.7
1969-70	41,934	816	1,268	34.2	53.2	34.9	54.2
1970-71[3]	42,428	911	1,345	38.7	57.1	39.6	58.2
1971-72	42,254	990	1,411	41.8	59.6	42.2	60.8
1972-73[4]	42,179	1,049	1,438	44.2	60.7	44.9	61.9
1973-74[5]	41,438	1,207	1,519	50.0	62.9	50.5	64.2
1974-75[4]	41,524	1,361	1,542	56.5	64.0	57.4	65.3
1975-76[4]	41,274	1,489	1,575	61.5	65.0	63.0	66.3
			Intermediate alternative projections[6]				
1976-77	40,800	1,640	1,640	66.9	66.9	68.3	68.3
1977-78	40,200	...	1,700	...	68.3	...	69.7
1978-79	39,400	...	1,765	...	69.5	...	70.9
1979-80	38,600	...	1,830	...	70.6	...	72.1
1980-81	37,800	...	1,895	...	71.6	...	73.1
1981-82	37,200	...	1,960	...	72.9	...	74.4
1982-83	36,600	...	2,025	...	74.1	...	75.6
1983-84	36,400	...	2,090	...	76.1	...	77.6
1984-85	36,400	...	2,155	...	78.4	...	80.0
1985-86	36,600	...	2,220	...	81.3	...	82.9
1986-87	37,000	...	2,285	...	84.5	...	86.2
			Low alternative projections[7]				
1976-77	40,800	1,640	1,640	66.9	66.9	68.3	68.3
1977-78	40,200	...	1,700	...	68.3	...	69.7
1978-79	39,400	...	1,765	...	69.5	...	70.9
1979-80	38,600	...	1,830	...	70.6	...	72.1
1980-81	37,800	...	1,895	...	71.6	...	73.1
1981-82	37,100	...	1,960	...	72.7	...	74.2
1982-83	36,400	...	2,025	...	73.7	...	75.2
1983-84	35,800	...	2,090	...	74.8	...	76.3
1984-85	35,400	...	2,155	...	76.3	...	77.8
1985-86	35,200	...	2,220	...	78.1	...	79.7
1986-87	35,100	...	2,285	...	80.2	...	81.8

See footnotes at end of table.

Table 28.–Current expenditures of public school systems, with alternative projections: United States, 1963-64 to 1986-87 – Cont.

Year	Average daily attendance (in thousands)	Allocated to pupil costs[1]				All programs[2]	
		Per pupil in average daily attendance		Total (in billions)		Total (in billions)	
		Current dollars	1976-77 dollars	Current dollars	1976-77 dollars	Current dollars	1976-77 dollars
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		High alternative projections[7]					
1976-77	40,800	1,640	1,640	66.9	66.9	68.3	68.3
1977-78	40,200	...	1,700	...	68.3	...	69.7
1978-79	39,400	...	1,765	...	69.5	...	70.9
1979-80	38,600	...	1,830	...	70.6	...	72.1
1980-81	37,800	...	1,895	...	71.6	...	73.1
1981-82	37,300	...	1,960	...	73.1	...	74.6
1982-83	37,000	...	2,025	...	74.9	...	76.4
1983-84	37,200	...	2,090	...	77.7	...	79.3
1984-85	37,700	...	2,155	...	81.2	...	82.9
1985-86	38,600	...	2,220	...	85.7	...	87.4
1986-87	39,600	...	2,285	...	90.5	...	92.3

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[1] Includes only the current expenditures for public day schools allocated to pupil costs; excludes the other expenditures shown in footnote 2.

[2] Includes current expenditures for summer schools, adult education, and community colleges operated by school districts, in addition to expenditures allocable to pupil costs.

[3] Derived from estimates furnished by States.

[4] Derived from *Revenues and Expenditures for Public Elementary and Secondary Education*, 1972-73, 1974-75, and 1975-76.

[5] 1973-74 and prior biennial years from *Statistics of State School Systems*.

[6] The projections of current expenditures of public school systems are based on these assumptions: (a) The ratio of average daily attendance to enrollment in grades K-12 of public schools (table 3) will remain constant at the level of 0.92 through 1986-87. (b) Current expenditures allocated to costs per pupil in average daily attendance will follow the trend of 1963-64 through 1973-74 (biennial years) and 1972-73, 1974-75, and 1975-76. (c) The ratio of current expenditures for all programs to current expenditures allocated to pupil costs will remain constant at the level of 1.02.

[7] In arriving at the low and high alternative projections it was assumed that the expenditure per pupil would remain as projected for the years through 1986-87 and that the variation in expected average daily attendance would be the driving force to create the varying total amounts.

NOTE.–Data are for 50 States and the District of Columbia for all years. The expenditures shown in this table include current expenditures for administration of State boards of education and intermediate administrative units. Column 6 equals column 2 times column 4 and column 8 equals column 6 times 1.02.

SOURCES: Data are based on U.S. Department of Health, Education and Welfare, National Center for Education Statistics, publications: (1) *Statistics of State School Systems*, 1963-64 through 1973-74, (2) *Statistics of Public Schools*, fall 1965 through 1972 (biennial years), and (3) *Revenues and Expenditures for Public Elementary and Secondary Education*, 1972-73, 1974-75, and 1975-76. Current expenditures were converted to 1976-77 dollars on the basis of the Consumer Price Index prepared by the Bureau of Labor Statistics, U.S. Department of Labor. (For method of converting, see appendix B, table B-9).

Table 29. Current expenditures for salaries of classroom teachers in regular public elementary and secondary schools, with alternative projections: United States, 1963-64 to 1986-87

Year	Number of classroom teachers (in thousands)[1]	Salaries of classroom teachers[2]			
		Average annual salary		Total (in billions)	
		Current dollars	1976-77 dollars	Current dollars	1976-77 dollars
(1)	(2)	(3)	(4)	(5)	(6)
1963-64	1,578	$ 6,200	$11,790	$ 9.8	$18.6
1964-65	1,651	6,435	12,080	10.6	19.9
1965-66[3]	1,710	6,732	12,372	11.5	21.2
1966-67	1,789	7,195	12,830	12.9	23.0
1967-68[3]	1,864	7,705	13,292	14.4	24.8
1968-69	1,936	8,260	13,595	16.0	26.3
1969-70[3]	2,023	8,944	13,897	18.1	28.1
1970-71	2,055	9,695	14,325	19.9	29.4
1971-72[3]	2,070	10,342	14,750	21.4	30.5
1972-73	2,103	10,530	14,435	22.1	30.4
1973-74[3]	2,155	11,223	14,122	24.2	30.4
1974-75	2,165	12,720	14,410	27.5	31.2
1975-76	2,196	13,895	14,700	30.5	32.3
		Intermediate alternative projections[4]			
1976-77	2,193	14,995	14,995	32.9	32.9
1977-78	2,178	....	15,285	....	33.3
1978-79	2,157	....	15,575	....	33.6
1979-80	2,132	....	15,865	....	33.8
1930-81	2,104	....	16,155	....	34.0
1981-82	2,088	....	16,445	....	34.3
1982-83	2.080	....	16,740	....	34.8
1983-84	2,080	....	17,030	....	35.4
1984-85	2,103	....	17,320	....	36.4
1985-86	2,139	....	17,610	....	37.7
1986-87	2,180	....	17,900	....	39.0
		Low alternative projections[4]			
1976-77	2,193	14,995	14,995	32.9	32.9
1977-78	2,162	....	15,285	....	33.0
1978-79	2,119	....	15,575	....	33.0
1979-80	2,073	....	15,865	....	32.9
1980-81	2,030	....	16,155	....	32.8
1981-82	1,993	....	16,445	....	32.8
1982-83	1,963	....	16,740	....	32.9
1983-84	1,948	....	17,030	....	33.2
1984-85	1,948	....	17,320	....	33.7
1985-86	1,957	....	17,610	....	34.5
1986-87	1,977	....	17,900	....	35.4

See footnotes at end of table.

Table 29. Current expenditures for salaries of classroom teachers in regular public elementary and secondary schools, with alternative projections: United States, 1963-64 to 1986-87 – Cont.

Year	Number of classroom teachers (in thousands)[1]	Salaries of classroom teachers[2]			
		Average annual salary		Total (in billions)	
		Current dollars	1976-77 dollars	Current dollars	1976-77 dollars
(1)	(2)	(3)	(4)	(5)	(6)
		High alternative projections[4]			
1976-77	2,193	14,995	14,995	32.9	32.9
1977-78	2,200	....	15,285	....	33.6
1978-79	2,202	....	15,575	....	34.3
1979-80	2,194	....	15,865	....	34.8
1980-81	2,191	....	16,155	....	35.4
1981-82	2,200	....	16,445	....	36.2
1982-83	2,213	....	16,740	....	37.0
1983-84	2,243	....	17,030	....	38.2
1984-85	2,357	....	17,320	....	40.8
1985-86	2,366	....	17,610	....	41.7
1986-87	2,448	....	17,900	....	43.8

[1] Data on number of classroom teachers from table 17.

[2] Average annual salaries of classroom teachers is being reported here because the data to estimate instructional staff salaries are no longer available as a result of a change in the collection definition.

[3] Estimates of salaries derived from *Statistics of State School Systems*. For the other years, estimates are based on interpolations and extrapolations of the trend.

[4] Projections of current expenditures for salaries of classroom teachers in public elementary and secondary schools are based on the assumption that average annual salaries will follow the 1965-66 through 1973-74 trend.

NOTE.–Data are for 50 States and the District of Columbia for all years.

SOURCES: Data are based on U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, publications: *Statistics of State School Systems, 1965-66 through 1973-74*. Conversion to 1976-77 dollars was based on the Consumer Price Index prepared by the Bureau of Labor Statistics, U.S. Department of Labor. (For method of converting, see appendix B, table B-9).

Table 30.–Capital outlay of public elementary and secondary school systems, with projections: United States, 1963-64 through 1986-87

[In millions]

Year (1)	Total capital outlay, including construction, equipment, etc.: Current dollars (2)	Total capital outlay, including construction, equipment, etc.: 1976-77 dollars (3)
1963-64[1]	$ 2,978	$ 7,280
1964-65[2]	3,267	7,785
1965-66[1]	3,755	8,625
1966-67[2]	4,000	8,695
1967-68[1]	4,256	8,780
1968-69[2]	4,654	8,870
1969-70[1]	4,659	8,300
1970-71[2]	5,061	8,210
1966-67 to 1970-71	22,630	39,855
1971-72[1]	4,459	6,510
1972-73[3]	4,091	5,485
1973-74[1]	4,979	6,165
1974-75[3]	5,746	6,710
1975-76[3]	5,920	6,370
1971-72 to 1975-76	25,195	31,240
	Projected[4]	
1976-77	6,200	6,200
1977-78	....	6,035
1978-79	....	5,870
1979-80	....	5,700
1980-81	....	5,535
1976-77 to 1980-81	....	29,340
1981-82	....	5,365
1982-83	....	5,200
1983-84	....	5,030
1984-85	....	4,865
1985-86	....	4,695
1981-82 to 1985-86	....	25,155
1986-87	....	4,530

[1] From *Statistics of State School Systems.*

[2] Estimates furnished by State education departments.

[3] From a special study of revenues and expenditures.

[4] Projections of capital outlay of public elementary and secondary school systems are based on the assumption that these expenditures will follow the 1963-64 through 1975-76 trend through 1986-87. (Data for trend from *Statistics of State School Systems* and special revenue and expenditure studies only.)

NOTE.–Data are for 50 States and the District of Columbia for all years.

SOURCES: Data are based on U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, publications: (1) *Statistics of State School Systems,* 1963-64 through 1973-74; (2) *Statistics of Public Schools,* fall 1965 through fall 1975; and (3) *Revenues and Expenditures for Public Elementary and Secondary Education,* 1972-73 through 1975-76. Conversion to 1976-77 dollars was based on the American Appraisal Company Construction Cost Index published in *Construction Review* by the U.S. Department of Commerce. (For method of converting, see appendix B, table B-4).

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Table 31.—Expenditures for interest by public elementary and secondary school systems, with projections: United States, 1963-64 through 1986-87

[In millions]

Year (1)	Total interest including payments to schoolhousing authorities or similar agencies: Current dollars (2)	Total interest including payments to schoolhousing authorities or similar agencies: 1976-77 dollars (3)
1963-64[1]	$ 701	$1,333
1964-65[2]	762	1,393
1965-66[1]	792	1,456
1966-67[2]	949	1,692
1967-68[1]	978	1,687
1968-69[2]	1,015	1,670
1969-70[1]	1,171	1,819
1970-71[2]	1,336	1,974
1971-72[1]	1,378	1,965
1972-73[3]	1,613	2,211
1973-74[1]	1,514	1,905
1974-75[3]	1,737	1,968
1975-76[3]	1,896	2,040
	Projected[4]	
1976-77	1,985	1,985
1977-78	....	2,045
1978-79	....	2,110
1979-80	....	2,170
1980-81	....	2,235
1981-82	....	2,295
1982-83	....	2,355
1983-84	....	2,420
1984-85	....	2,480
1985-86	....	2,545
1986-87	....	2,605

[1] From *Statistics of State School Systems.*

[2] Estimates furnished by State education departments.

[3] Data from special studies of revenues and expenditures for public elementary and secondary school systems.

[4] Projections of interest expenditure are based on the assumption that they will follow the 1963-64 through 1975-76 trend.

NOTE.—Data are for 50 States and the District of Columbia for all years.

SOURCES: Data are based on U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, publications: *Statistics of State School Systems,* 1965-66 through 1973-74, *Statistics of Public Schools,* fall 1965 through fall 1971, *Expenditures and Revenues for Public Elementary and Secondary Education,* 1972-73 through 1975-76. Conversion to 1976-77 dollars was based on the Consumer Price Index prepared by the Bureau of Labor Statistics, U.S. Department of Labor. (For method of converting, see appendix B, table B-4).

Table 32.—Expenditures from current funds and total current expenditures (1976-77 dollars) by institutions of higher education, with alternative projections: United States, 1963-64 to 1986-87

[In billions of 1976-77 dollars]

Year and control (1)	Student education[1] (2)	Educational and general		Public service[4] (5)	Auxiliary enterprises[5] (6)	Hospitals and independent operations[6] (7)	Mandatory transfers[7] (8)	Total current expenditures (Cols. 2 thru 7 less col. 8) (9)
		Research[2] (3)	Scholarships and fellowships[3] (4)					
1963-64:								
Total	$ 8.9	$2.7	$0.6	$1.0	$2.7	$1.5	$0.8	$16.6
Public	5.1	1.4	.2	.8	1.5	.7	.4	9.3
Nonpublic . . .	3.8	1.3	.4	.2	1.2	.8	.4	7.3
1964-65:[8]								
Total	10.1	3.0	.6	1.2	3.3	1.7	1.0	18.9
Public	5.9	1.5	.2	.9	1.8	.8	.6	10.5
Nonpublic . . .	4.2	1.5	.4	.3	1.5	.9	.4	8.4
1965-66:								
Total	11.7	3.2	.8	1.4	3.9	1.9	1.1	21.8
Public	6.9	1.6	.3	1.1	2.1	.9	.7	12.2
Nonpublic . . .	4.8	1.6	.5	.3	1.8	1.0	.4	9.6
1966-67:								
Total	13.5	3.2	1.0	1.6	4.1	2.0	1.1	24.3
Public	8.2	1.7	.4	1.2	2.3	1.0	.7	14.1
Nonpublic . . .	5.3	1.5	.6	.4	1.8	1.0	.4	10.2
1967-68:								
Total	15.6	3.4	1.2	1.7	4.4	2.1	1.1	27.3
Public	9.9	1.9	.5	1.3	2.6	1.1	.7	16.6
Nonpublic . . .	5.7	1.5	.7	.4	1.8	1.0	.4	10.7
1968-69:								
Total	17.8	3.4	1.3	1.6	4.2	2.1	1.0	29.4
Public	11.5	2.0	.6	1.2	2.4	1.1	.7	18.1
Nonpublic . . .	6.3	1.4	.7	.4	1.8	1.0	.3	11.3
1969-70:								
Total	19.4	3.4	1.5	1.8	4.3	2.3	1.1	31.6
Public	12.8	2.0	.7	1.4	2.5	1.2	.9	19.7
Nonpublic . . .	6.6	1.4	.8	.4	1.8	1.1	.2	11.9
1970-71:								
Total	20.9	3.3	1.6	1.9	4.4	2.5	.9	33.7
Public	14.0	2.0	.8	1.4	2.6	1.4	.7	21.5
Nonpublic . . .	6.9	1.3	.8	.5	1.8	1.1	.2	12.2

See footnotes at end of table.

Table 32.–Expenditures from current funds and total current expenditures (1976-77 dollars) by institutions of higher education, with alternative projections: United States, 1963-64 to 1986-87 – Cont.

[In billions of 1976-77 dollars]

Year and control (1)	Student education[1] (2)	Educational and general		Public service[4] (5)	Auxiliary enterprises[5] (6)	Hospitals and independent operations[6] (7)	Mandatory transfers[7] (8)	Total current expenditures (Cols. 2 thru 7 less col. 8) (9)
		Research[2] (3)	Scholarships and fellowships[3] (4)					
1971-72:								
Total	22.1	3.2	1.8	2.0	4.5	2.8	.9	35.5
Public	15.0	1.9	.9	1.5	2.7	1.5	.7	22.8
Nonpublic . . .	7.1	1.3	.9	.5	1.8	1.3	.2	12.7
1972-73:								
Total	23.6	3.3	1.8	2.0	4.6	3.1	.9	37.5
Public	16.1	2.1	.9	1.5	2.8	1.6	.7	24.3
Nonpublic . . .	7.5	1.2	.9	.5	1.8	1.5	.2	13.2
1973-74:								
Total	24.1	3.1	1.8	2.0	4.6	3.1	1.0	37.7
Public	16.7	2.0	.9	1.5	2.8	1.7	.7	24.9
Nonpublic . . .	7.4	1.1	.9	.5	1.8	1.4	.3	12.8
1974-75:								
Total	24.2	3.5	1.6	1.9	4.6	3.9	1.1	38.6
Public	17.0	2.3	.8	1.5	2.9	2.1	.8	25.8
Nonpublic . . .	7.2	1.2	.8	.4	1.7	1.8	.3	12.8
1975-76:								
Total	25.3	3.5	1.7	1.9	4.7	4.1	1.1	40.1
Public	17.9	2.3	.8	1.5	3.0	2.2	.7	27.0
Nonpublic . . .	7.4	1.2	.9	.4	1.7	1.9	.4	13.1
				Intermediate alternative projection[9]				
1976-77:								
Total	25.3	3.5	1.8	1.9	4.8	4.1	1.1	40.3
Public	17.8	2.3	.9	1.5	3.0	2.2	.8	26.9
Nonpublic . . .	7.5	1.2	.9	.4	1.8	1.9	.3	13.4
1977-78:								
Total	26.1	3.7	1.8	2.0	4.9	4.2	1.1	41.6
Public	18.5	2.4	.9	1.6	3.1	2.3	.8	28.0
Nonpublic . . .	7.6	1.3	.9	.4	1.8	1.9	.3	13.6
1978-79:								
Total	26.5	3.8	1.8	2.0	5.0	4.2	1.1	42.2
Public	18.9	2.5	.9	1.6	3.2	2.3	.8	28.6
Nonpublic . . .	7.6	1.3	.9	.4	1.8	1.9	.3	13.6

See footnotes at end of table.

Table 32.–Expenditures from current funds and total current expenditures (1976-77 dollars) by institutions of higher education, with alternative projections: United States, 1963-64 to 1986-87 – Cont.

[In billions of 1976-77 dollars]

Year and control (1)	Student education[1] (2)	Educational and general: Research[2] (3)	Educational and general: Scholarships and fellowships[3] (4)	Public service[4] (5)	Auxiliary enterprises[5] (6)	Hospitals and independent operations[6] (7)	Mandatory transfers[7] (8)	Total current expenditures (Cols. 2 thru 7 less col. 8) (9)
1979-80:								
Total	26.9	3.8	1.8	2.1	5.0	4.3	1.1	42.8
Public	19.3	2.5	.9	1.7	3.2	2.4	.8	29.2
Nonpublic . . .	7.6	1.3	.9	.4	1.8	1.9	.3	13.6
1980-81:								
Total	27.3	3.9	1.8	2.1	5.1	4.3	1.1	43.4
Public	19.7	2.6	.9	1.7	3.3	2.4	.8	29.8
Nonpublic . . .	7.6	1.3	.9	.4	1.8	1.9	.3	13.6
1981-82:								
Total	27.5	3.9	1.8	2.1	5.2	4.4	1.1	43.8
Public	19.9	2.6	.9	1.7	3.4	2.5	.8	30.2
Nonpublic . . .	7.6	1.3	.9	.4	1.8	1.9	.3	13.6
1982-83:								
Total	27.6	3.8	1.8	2.1	5.2	4.4	1.1	43.8
Public	20.1	2.6	.9	1.7	3.4	2.5	.8	30.4
Nonpublic . . .	7.5	1.2	.9	.4	1.8	1.9	.3	13.4
1983-84:								
Total	27.6	3.8	1.9	2.1	5.2	4.3	1.1	43.8
Public	20.2	2.6	1.0	1.7	3.4	2.5	.8	30.6
Nonpublic . . .	7.4	1.2	.9	.4	1.8	1.8	.3	13.2
1984-85:								
Total	27.3	3.8	1.9	2.1	5.1	4.3	1.1	43.4
Public	20.1	2.6	1.0	1.7	3.4	2.5	.8	30.5
Nonpublic . . .	7.2	1.2	.9	.4	1.7	1.8	.3	12.9
1985-86:								
Total	27.2	3.8	1.8	2.1	5.1	4.3	1.1	43.2
Public	20.1	2.6	1.0	1.7	3.4	2.5	.8	30.5
Nonpublic . . .	7.1	1.2	.8	.4	1.7	1.8	.3	12.7
1986-87:								
Total	27.0	3.8	1.8	2.1	5.0	4.2	1.1	42.8
Public	20.1	2.6	1.0	1.7	3.4	2.5	.8	30.5
Nonpublic . . .	6.9	1.2	.8	.4	1.6	1.7	.3	12.3

See footnotes at end of table.

Table 32.—Expenditures from current funds and total current expenditures (1976-77 dollars) by institutions of higher education, with alternative projections: United States, 1963-64 to 1986-87 – Cont.

[In billions of 1976-77 dollars]

Year and control	Student education[1]	Educational and general		Public service[4]	Auxiliary enterprises[5]	Hospitals and independent operations[6]	Mandatory transfers[7]	Total current expenditures (Cols. 2 thru 7 less col. 8)
		Research[2]	Scholarships and fellowships[3]					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
				Low alternative projection[9]				
1976-77:								
Total	25.3	3.5	1.8	1.9	4.8	4.1	1.1	40.3
Public	17.8	2.3	.9	1.5	3.0	2.2	.8	26.9
Nonpublic	7.5	1.2	.9	.4	1.8	1.9	.3	13.4
1977-78:								
Total	25.7	3.7	1.8	2.0	4.9	4.1	1.1	41.1
Public	18.2	2.4	.9	1.6	3.1	2.2	.8	27.6
Nonpublic	7.5	1.3	.9	.4	1.8	1.9	.3	13.5
1978-79:								
Total	25.7	3.6	1.8	2.0	4.9	4.2	1.1	41.1
Public	18.3	2.4	.9	1.6	3.1	2.3	.8	27.8
Nonpublic	7.4	1.2	.9	.4	1.8	1.9	.3	13.3
1979-80:								
Total	25.8	3.6	1.8	2.0	4.9	4.1	1.1	41.1
Public	18.5	2.4	.9	1.6	3.1	2.3	.8	28.0
Nonpublic	7.3	1.2	.9	.4	1.8	1.8	.3	13.1
1980-81:								
Total	25.9	3.7	1.8	2.0	4.8	4.1	1.1	41.2
Public	18.6	2.5	.9	1.6	3.1	2.3	.8	28.2
Nonpublic	7.3	1.2	.9	.4	1.7	1.8	.3	13.0
1981-82:								
Total	25.8	3.6	1.7	2.0	4.8	4.1	1.1	40.9
Public	18.6	2.4	.9	1.6	3.1	2.3	.8	28.1
Nonpublic	7.2	1.2	.8	.4	1.7	1.8	.3	12.8
1982-83:								
Total	25.6	3.6	1.7	2.0	4.8	4.1	1.1	40.7
Public	18.5	2.4	.9	1.6	3.1	2.3	.8	28.0
Nonpublic	7.1	1.2	.8	.4	1.7	1.8	.3	12.7
1983-84:								
Total	25.2	3.6	1.7	2.0	4.8	4.0	1.1	40.2
Public	18.3	2.4	.9	1.6	3.1	2.3	.8	27.8
Nonpublic	6.9	1.2	.8	.4	1.7	1.7	.3	12.4

See footnotes at end of table.

Table 32.–Expenditures from current funds and total current expenditures (1976-77 dollars) by institutions of higher education, with alternative projections: United States, 1963-64 to 1986-87 – Cont.

[In billions of 1976-77 dollars]

Year and control (1)	Student education[1] (2)	Educational and general		Public service[4] (5)	Auxiliary enterprises[5] (6)	Hospitals and independent operations[6] (7)	Mandatory transfers[7] (8)	Total current expenditures (Cols. 2 thru 7 less col. 8) (9)
		Research[2] (3)	Scholarships and fellowships[3] (4)					
1984-85:								
Total	24.8	3.5	1.7	1.9	4.6	3.9	1.1	39.3
Public	18.1	2.4	.9	1.5	3.0	2.2	.8	27.3
Nonpublic ...	6.7	1.1	.8	.4	1.6	1.7	.3	12.0
1985-86:								
Total	24.4	3.4	1.6	1.8	4.6	3.8	1.0	38.6
Public	17.8	2.3	.8	1.5	3.0	2.2	.7	26.9
Nonpublic ...	6.6	1.1	.8	.3	1.6	1.6	.3	11.7
1986-87:								
Total	23.9	3.4	1.6	1.8	4.4	3.8	1.0	37.9
Public	17.5	2.3	.8	1.5	2.9	2.2	.7	26.5
Nonpublic ...	6.4	1.1	.8	.3	1.5	1.6	.3	11.4
				High alternative projection[9]				
1976-77:								
Total	25.3	3.5	1.8	1.9	4.8	4.1	1.1	40.3
Public	17.8	2.3	.9	1.5	3.0	2.2	.8	26.9
Nonpublic ...	7.5	1.2	.9	.4	1.8	1.9	.3	13.4
1977-78:								
Total	26.5	3.8	1.8	2.0	5.0	4.2	1.2	42.1
Public	18.8	2.5	.9	1.6	3.2	2.3	.8	28.5
Nonpublic ...	7.7	1.3	.9	.4	1.8	1.9	.4	13.6
1978-79:								
Total	27.3	3.9	1.8	2.0	5.2	4.3	1.2	43.3
Public	19.5	2.6	.9	1.6	3.3	2.4	.8	29.5
Nonpublic ...	7.8	1.3	.9	.4	1.9	1.9	.4	13.8
1979-80:								
Total	28.0	3.9	1.9	2.1	5.3	4.5	1.2	44.5
Public	20.1	2.6	1.0	1.7	3.4	2.5	.8	30.5
Nonpublic ...	7.9	1.3	.9	.4	1.9	2.0	.4	14.0
1980-81:								
Total	28.7	4.0	1.9	2.2	5.4	4.5	1.3	45.4
Public	20.8	2.7	1.0	1.8	3.5	2.5	.9	31.4
Nonpublic ...	7.9	1.3	.9	.4	1.9	2.0	.4	14.0
1981-82:								
Total	29.1	4.1	1.9	2.2	5.5	4.6	1.3	46.1
Public	21.2	2.8	1.0	1.8	3.6	2.6	.9	32.1
Nonpublic ...	7.9	1.3	.9	.4	1.9	2.0	.4	14.0

See footnotes at end of table.

Table 32.–Expenditures from current funds and total current expenditures (1976-77 dollars) by institutions of higher education, with alternative projections: United States, 1963-64 to 1986-87 – Cont.

[In billions of 1976-77 dollars]

Year and control	Student education[1]	Educational and general		Public service[4]	Auxiliary enterprises[5]	Hospitals and independent operations[6]	Mandatory transfers[7]	Total current expenditures (Cols. 2 thru 7 less col. 8)
		Research[2]	Scholarships and fellowships[3]					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1982-83:								
Total	29.5	4.2	1.9	2.2	5.5	4.7	1.3	46.7
Public	21.6	2.9	1.0	1.8	3.6	2.7	.9	32.7
Nonpublic	7.9	1.3	.9	.4	1.9	2.0	.4	14.0
1983-84:								
Total	29.6	4.2	1.9	2.3	5.6	4.6	1.3	46.9
Public	21.9	2.9	1.0	1.9	3.7	2.7	.9	33.2
Nonpublic	7.7	1.3	.9	.4	1.9	1.9	.4	13.7
1984-85:								
Total	29.7	4.2	2.0	2.3	5.5	4.6	1.3	47.0
Public	22.1	2.9	1.1	1.9	3.7	2.7	.9	33.5
Nonpublic	7.6	1.3	.9	.4	1.8	1.9	.4	13.5
1985-86:								
Total	29.7	4.1	2.0	2.3	5.5	4.7	1.2	47.1
Public	22.3	2.9	1.1	1.9	3.7	2.8	.9	33.8
Nonpublic	7.4	1.2	.9	.4	1.8	1.9	.3	13.3
1986-87:								
Total	29.6	4.2	1.9	2.3	5.5	4.6	1.3	46.8
Public	22.5	3.0	1.1	1.9	3.8	2.8	1.0	34.1
Nonpublic	7.1	1.2	.8	.4	1.7	1.8	.3	12.7

[1] Includes instruction, academic support, libraries, institutional support, student services, and operation and maintenance of the plant. These are the items most nearly comparable to "student education" expenditures reported prior to 1974-75.

[2] Includes all sponsored research and other separately budgeted research with exception of federally funded research and development centers which are included under "independent operations."

[3] Moneys given in the form of outright grants and trainee stipends to individuals enrolled in formal coursework, either for credit or not. Includes aid in the form of tuition or fee remissions. Prior to 1974-75, this category was entitled "student aid" and was not an educational and general item.

[4] Includes all expenditures for public service, activities established primarily to provide noninstructional services beneficial to groups external to the institution, such as seminars and projects provided to the community. Includes expenditures for cooperative extension services. Includes mandatory transfers from educational general items. Public service appears to be somewhat comparable to expenditures previously grouped under "related activities."

[5] Includes residence halls, food services, college stores, and intercollegiate athletics. Includes mandatory transfers from auxiliary enterprises.

[6] Includes expenditures for hospitals and for "independent operations" which are generally limited to expenditures of federally funded research and development centers. Includes mandatory transfers from hospitals and independent operations.

[7] Mandatory transfers from current funds are those that must be made to fulfill a binding legal obligation of the institution. Includes debt-service provisions relating to academic buildings, including amounts set aside for debt retirement and interest, and required provisions for renewal and replacement to the extent not financed from other sources.

[8] Estimated.

[9] Projected on the basis of expenditure per full-time-equivalent student averaged for 1974-75 and 1975-76 and applied to the three alternative projections of full-time-equivalent students through 1986-87. (Table 8)

NOTE.–Data are for 50 States and the District of Columbia for all years.

SOURCE: Expenditure data from U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, publication: *Financial Statistics of Institutions of Higher Education.*

Table 33.–Expenditures from current funds and total current expenditures (current dollars) by institutions of higher education: United States, 1963-64 to 1975-76

[In billions of current, unadjusted dollars]

Year and control (1)	Student education[1] (2)	Educational and general Research[2] (3)	Educational and general Scholarships and fellowships[3] (4)	Public service[4] (5)	Auxiliary enterprises[5] (6)	Hospitals and independent operations[6] (7)	Mandatory transfers[7] (8)	Total current expenditures (Cols. 2 thru 7 less col. 8) (9)
1963-64:								
Total	$ 4.7	$ 1.4	$ 0.3	$ 0.5	$ 1.5	$ 0.8	$ 0.4	$ 8.8
Public	2.7	.7	.1	.4	.8	.4	.2	4.9
Nonpublic	2.0	.7	.2	.1	.7	.4	.2	3.9
1964-65:[8]								
Total	5.4	1.6	.3	.6	1.8	.9	.5	10.1
Public	3.1	.8	.1	.5	1.0	.4	.3	5.6
Nonpublic	2.3	.8	.2	.1	.8	.5	.2	4.5
1965-66:								
Total	6.4	1.8	.4	.8	2.1	1.0	.6	11.9
Public	3.8	.9	.1	.6	1.2	.5	.4	6.7
Nonpublic	2.6	.9	.3	.2	.9	.5	.2	5.2
1966-67:								
Total	7.5	1.8	.5	.9	2.3	1.2	.6	13.6
Public	4.6	.9	.2	.7	1.3	.6	.4	7.9
Nonpublic	2.9	.9	.3	.2	1.0	.6	.2	5.7
1967-68:								
Total	9.0	2.0	.7	1.0	2.6	1.2	.7	15.8
Public	5.7	1.1	.3	.8	1.5	.6	.4	9.6
Nonpublic	3.3	.9	.4	.2	1.1	.6	.3	6.2
1968-69:								
Total	10.7	2.1	.9	1.0	2.5	1.3	.6	17.9
Public	6.9	1.2	.4	.8	1.4	.7	.4	11.0
Nonpublic	3.8	.9	.5	.2	1.1	.6	.2	6.9
1969-70:								
Total	12.4	2.2	1.0	1.2	2.8	1.5	.8	20.3
Public	8.2	1.3	.5	.9	1.6	.8	.6	12.7
Nonpublic	4.2	.9	.5	.3	1.2	.7	.2	7.6
1970-71:								
Total	14.2	2.2	1.1	1.3	3.0	1.6	.6	22.8
Public	9.5	1.3	.5	1.0	1.8	.9	.4	14.6
Nonpublic	4.7	.9	.6	.3	1.2	.7	.2	8.2

Table 33.–Expenditures from current funds and total current expenditures (current dollars) by institutions of higher education: United States, 1963-64 to 1975-76 – Cont.

[In billions of current, unadjusted dollars]

Year and control	Student education[1]	Educational and general		Public service[4]	Auxiliary enterprises[5]	Hospitals and independent operations[6]	Mandatory transfers[7]	Total current expenditures (Cols. 2 thru 7 less col. 8)
		Research[2]	Scholarships and fellowships[3]					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1971-72:								
Total	15.5	2.3	1.2	1.4	3.2	1.9	.6	24.9
Public	10.5	1.4	.6	1.0	1.9	1.0	.4	16.0
Nonpublic . . .	5.0	.9	.6	.4	1.3	.9	.2	8.9
1972-73:								
Total	17.2	2.4	1.4	1.5	3.3	2.2	.7	27.3
Public	11.8	1.5	.7	1.1	2.0	1.1	.5	17.7
Nonpublic . . .	5.4	.9	.7	.4	1.3	1.1	.2	9.6
1973-74:								
Total	19.2	2.5	1.4	1.6	3.6	2.4	.8	29.9
Public	13.3	1.6	.7	1.2	2.2	1.3	.6	19.7
Nonpublic . . .	5.9	.9	.7	.4	1.4	1.1	.2	10.2
1974-75:								
Total	21.4	3.1	1.5	1.6	4.1	3.4	1.0	34.1
Public	15.1	2.0	.7	1.3	2.6	1.8	.7	22.8
Nonpublic . . .	6.3	1.1	.8	.3	1.5	1.6	.3	11.3
1975-76:								
Total	23.9	3.3	1.6	1.8	4.5	3.8	1.0	37.9
Public	16.9	2.2	.8	1.4	2.8	2.1	.7	25.5
Nonpublic . . .	7.0	1.1	.8	.4	1.7	1.7	.3	12.4

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[1] Includes instruction, academic support, libraries, institutional support, student services, and operation and maintenance of the plant. These are the items most nearly comparable to "student education" expenditures reported prior to 1974-75.

[2] Includes all sponsored research and other separately budgeted research with exception of federally funded research and development centers which are included under "independent operations."

[3] Moneys given in the form of outright grants and trainee stipends to individuals enrolled in formal coursework, either for credit or not. Includes aid in the form of tuition or fee remissions. Prior to 1974-75, this category was entitled "student aid" and was not an educational and general item.

[4] Includes all expenditures for public service, activities established primarily to provide noninstructional services beneficial to groups external to the institution, such as seminars and projects provided to the community. Includes expenditures for cooperative extension services. Includes mandatory transfers from educational general items. Public service appears to be somewhat comparable to expenditures previously grouped under "related activities."

[5] Includes residence halls, food services, college stores, and intercollegiate athletics. Includes mandatory transfers from auxiliary enterprises.

[6] Includes expenditures for hospitals and for "independent operations" which are generally limited to expenditures of federally funded research and development centers. Includes mandatory transfers from hospitals and independent operations.

[7] Mandatory transfers from current funds are those that must be made to fulfill a binding legal obligation of the institution. Includes debt-service provisions relating to academic buildings, including amounts set aside for debt retirement and interest, and required provisions for renewal and replacements to the extent not financed from other sources.

[8] Estimated.

NOTE.–Data are for 50 States and the District of Columbia for all years.

SOURCE: Expenditure data from U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, publication: *Financial Statistics of Institutions of Higher Education.*

Table 34.–Capital outlay of institutions of higher education, with projections: United States, 1963-64 to 1986-87

[In millions]

Year	Total		Public		Nonpublic	
	Current dollars	1976-77 dollars	Current dollars	1976-77 dollars	Current dollars	1976-77 dollars
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1963-64	$2,466	$6,029	$1,518	$3,711	$ 948	$2,318
1964-65	2,825	6,732	1,595	3,801	1,230	2,931
1965-66	3,253	7,473	2,064	4,742	1,189	2,731
1966-67	3,943	8,572	2,573	5,594	1,370	2,978
1967-68	4,175	8,613	2,732	5,636	1,443	2,977
1968-69[1]	4,057	7,732	2,978	5,676	1,079	2,056
1969-70	4,332	7,720	3,066	5,464	1,266	2,256
1970-71	4,344	7,046	3,147	5,105	1,197	1,941
1971-72	4,336	6,333	3,156	4,609	1,180	1,724
1972-73	4,092	5,486	3,045	4,082	1,047	1,404
1973-74	4,440	5,496	3,276	4,055	1,164	1,441
1974-75	4,798	5,605	3,474	4,058	1,324	1,547
1975-76	4,809	5,176	3,612	3,888	1,197	1,288
			Projected[2]			
1976-77	....	5,176	....	3,888	....	1,288
1977-78	....	5,176	....	3,888	....	1,288
1978-79	....	5,176	....	3,888	....	1,288
1979-80	....	5,176	....	3,888	....	1,288
1980-81	....	5,176	....	3,888	....	1,288
1981-82	....	5,176	....	3,888	....	1,288
1982-83	....	5,176	....	3,888	....	1,288
1983-84	....	5,176	....	3,888	....	1,288
1984-85	....	5,176	....	3,888	....	1,288
1985-86	....	5,176	....	3,888	....	1,288
1986-87	....	5,176	....	3,888	....	1,288

[1] Interpolation based on reported value of plant at close of previous year and the beginning of the following year.

[2] Since enrollments are projected as virtually stabilized through 1986-87, capital outlay in constant dollars is not expected to change significantly either above or below the last reported figures in 1975-76. There are no alternative projections.

Chapter VI
STUDENT CHARGES BY INSTITUTIONS OF HIGHER EDUCATION

C. George Lind

Estimated student charges (tuition and required fees, board, and dormitory rooms) are based on the charges and full-time-equivalent enrollment reported by each institution of higher education. The estimated average charge for all institutions, by control and by level, is a weighted average charge computed by summing the product of the charge made by each institution multiplied by the number of full-time-equivalent students in that institution. The summation divided by the number of full-time-equivalent students for the United States (table 8) becomes the weighted average charge. The projections of average charges should be used with caution since an institution must assess such charges with due consideration to the availability of funds from other sources, a condition which may vary from year to year.

Charges for tuition and required fees (in constant 1976-77 dollars) indicate a statistically reliable trend over the past 10 years (table 35). The projected trend is presented as the high alternative and the 1976-77 level is held as the low alternative. The intermediate projection is the average of the high and low alternatives.

Charges for both board and dormitory rooms (in constant 1976-77 dollars) do not indicate a statistically reliable trend over the past 10 years and are held at the 1976-77 level with no alternatives.

The adjustment of base data to constant 1976-77 dollars represents +78.3 percent in 1966-67 and +90.2 percent in 1963-64. This means that 1966-67 current dollars were multiplied by 1.783 and 1963-64 current dollars were multiplied by 1.902 in order to estimate their purchasing power in terms of 1966-67 current dollars.

The estimated average charge per student (tuition and required fees, board, and room) by publicly controlled institutions of higher education (in constant 1976-77 dollars) increased from $1,761 in 1963-64 to $1,874 in 1976-77. The projected charge for 1986-87 is $1,906 as the intermediate alternative and $1,938 as the high alternative. The low alternative projection is held at the 1976-77 level. The estimated average charge per student by nonpublicly controlled institutions of higher education increased from $3,452 in 1963-64 to $4,058 in 1976-77. The projected charge for 1986-87 is $4,221 as the intermediate alternative and $4,383 as the high alternative. The low alternative projection is held at the 1976-77 level.

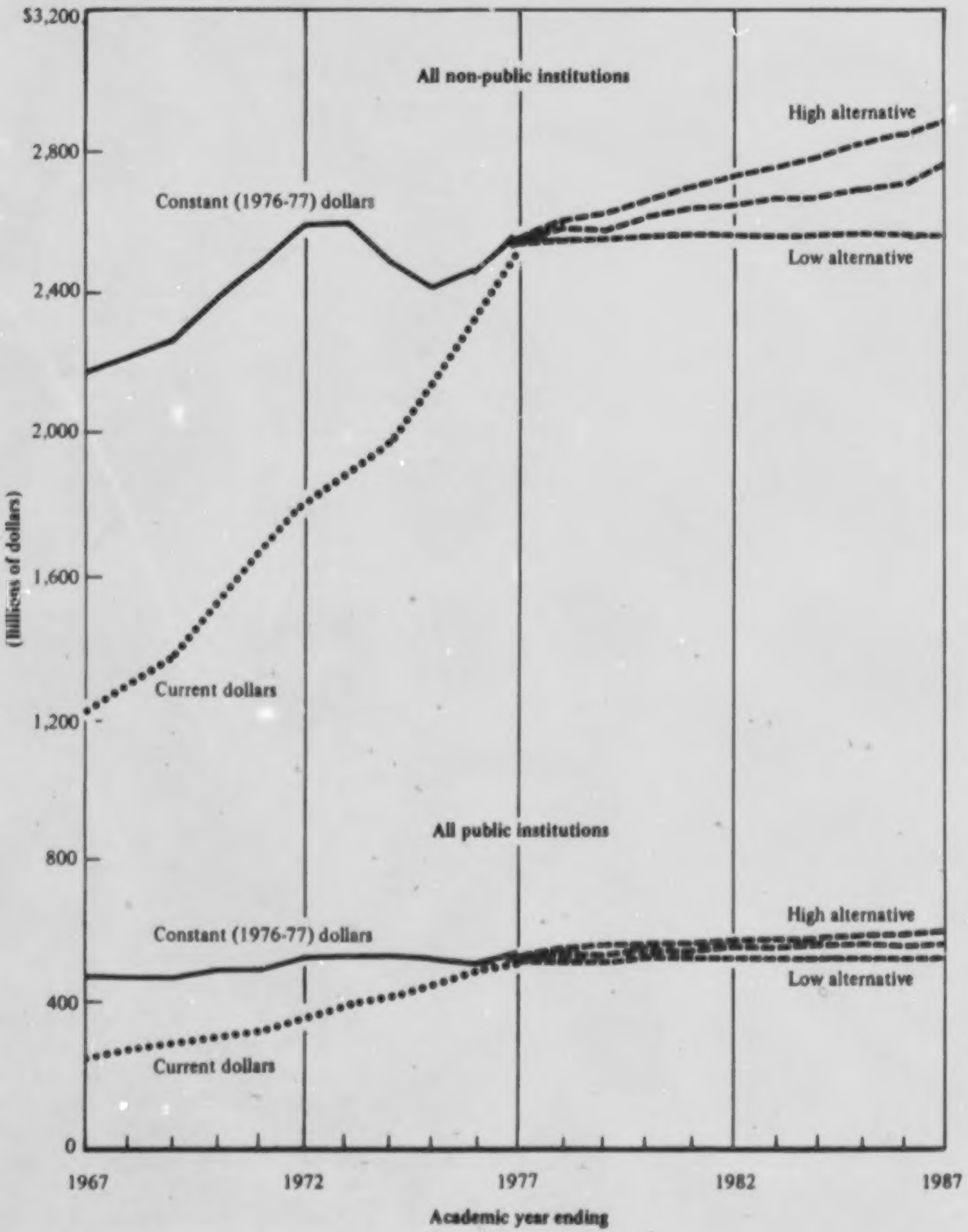
The charges for tuition and required fees only, by publicly controlled institutions of higher education, increased from $445 in 1963-64 to $550 in 1976-77. The projected charge for 1986-87 is $582 as the intermediate alternative and $614 as the high alternative. The low alternative projection is held at the 1976-77 level. Nonpublicly controlled institutions of higher education charged an estimated $1,925 (in constant 1976-77 dollars) in 1963-64 and $2,564 in 1976-77. The projected charge for 1986-87 is $2,727 as the intermediate alternative and $2,889 as the high alternative. The low alternative projection is held at the 1976-77 level.

Charges for board by publicly controlled institutions of higher education decreased from $827 in 1963-64 to $736 in 1976-77. Nonpublicly controlled institution charges decreased from $926 in 1963-64 to $813 in 1976-77. The trends of charges for board are not statistically reliable and the projection is held at the 1976-77 level with no alternatives.

Charges for dormitory rooms by publicly controlled institutions of higher education, increased from $489 in 1963-64 to $588 in 1976-77. Nonpublicly controlled institution charges increased from $601 in 1963-64 to $681 in 1976-77. The trends of charges for dormitory rooms are not statistically reliable and the projection is held at the 1976-77 level with no alternatives. These data appear in table 36 in unadjusted dollars.

Figure 12.–Estimated average charges for tuition and required fees per full-time equivalent student in all institutions of higher education, with alternative projections,* by control of institution: United States, 1966-67 to 1986-87

(Data from tables 35 and 36)



*Projections are in constant (1976-77) dollars.

Table 35.–Estimated average charges (1976-77 dollars) per full-time-equivalent student in institutions of higher education with alternative projections, by type and control of institution: United States, 1963-64 to 1986-87

[Charges are for the academic year and in constant 1976-77 dollars]

Year and control	Total tuition, board and room				Tuition and required fees				Board (7-day basis)				Dormitory rooms			
	All	University	Other 4-year	2-year	All	University	Other 4-year	2-year	All	University	Other 4-year	2-year	All	University	Other 4-year	2-year
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1963-64:																
Public	1,761	1,951	1,609	1,198	445	534	409	184	827	890	759	687	489	527	441	327
Nonpublic	3,452	4,003	3,233	2,497	1,925	2,313	1,778	1,221	926	981	903	812	601	709	552	464
1964-65:																
Public	1,784	1,973	1,628	1,198	456	560	421	186	819	867	755	678	509	546	452	334
Nonpublic	3,581	4,135	3,399	2,732	2,043	2,436	1,921	1,318	916	967	900	871	622	732	578	543
1965-66:[1]																
Public	1,807	2,031	1,659	1,232	473	601	442	201	817	871	749	674	517	559	468	357
Nonpublic	3,684	4,257	3,489	2,863	2,121	2,516	1,996	1,412	909	972	887	870	654	769	606	581
1966-67:																
Public	1,829	2,088	1,688	1,266	490	642	462	216	815	874	743	670	524	572	483	380
Nonpublic	3,786	4,379	3,578	2,993	2,198	2,596	2,071	1,506	902	977	874	868	686	806	633	619
1967-68:[1]																
Public	1,835	2,069	1,719	1,360	488	631	462	248	807	856	754	693	540	582	503	419
Nonpublic	3,804	4,389	3,630	3,042	2,237	2,646	2,134	1,540	891	959	865	870	676	784	631	632
1968-69:																
Public	1,838	2,049	1,749	1,454	485	620	462	280	798	838	764	716	555	591	523	458
Nonpublic	3,820	4,399	3,682	3,088	2,276	2,696	2,197	1,573	879	941	856	871	665	762	629	644
1969-70:[1]																
Public	1,870	2,116	1,765	1,479	502	663	476	278	794	539	751	722	574	614	538	479
Nonpublic	3,932	4,536	3,760	3,097	2,382	2,811	2,282	1,606	872	944	843	849	678	781	635	642
1970-71:[1]																
Public	1,902	2,183	1,782	1,504	519	706	490	276	790	840	738	728	593	637	554	500
Nonpublic	4,046	4,674	3,839	3,107	2,489	2,926	2,368	1,639	866	947	830	827	691	801	641	641

Table 35.–Estimated average charges (1976-77 dollars) per full-time-equivalent student in institutions of higher education with alternative projections, by type and control of institution: United States, 1963-64 to 1986-87 – Cont.

[Charges are for the academic year and in constant 1976-77 dollars]

Year and control	Total tuition, board and room				Tuition and required fees				Board (7-day basis)				Dormitory rooms			
	All	University	Other 4-year	2-year	All	University	Other 4-year	2-year	All	University	Other 4-year	2-year	All	University	Other 4-year	2-year
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1971-72:																
Public	1,935	2,251	1,801	1,530	536	750	505	274	786	841	726	734	613	660	570	522
Nonpublic	4,161	4,813	3,918	3,118	2,596	3,042	2,454	1,672	860	950	817	806	705	821	647	640
1972-73:																
Public	1,999	2,286	2,002	1,641	558	776	624	319	788	825	754	776	653	685	624	546
Nonpublic	4,164	4,814	4,022	3,116	2,602	3,051	2,530	1,674	844	910	820	816	718	853	672	626
1973-74:																
Public	1,909	2,147	1,896	1,603	551	731	583	345	754	781	729	743	604	635	584	515
Nonpublic	3,982	4,677	3,825	3,033	2,503	2,988	2,422	1,640	808	906	771	785	671	783	632	608
1974-75:																
Public	1,832	2,036	1,789	1,565	533	676	536	358	727	764	693	725	572	596	560	482
Nonpublic	3,836	4,489	3,656	2,836	2,414	2,871	2,306	1,519	777	852	749	736	645	766	601	581
1975-76:																
Public	1,825	2,049	1,782	1,569	524	683	530	361	727	761	692	740	574	605	560	468
Nonpublic	3,905	4,596	3,675	2,931	2,469	2,960	2,312	1,565	783	859	755	752	653	777	608	614
1976-77:																
Public	1,874	2,073	1,854	1,603	550	692	570	382	736	765	704	748	588	616	580	473
Nonpublic	4,058	4,849	3,775	3,004	2,564	3,139	2,381	1,620	813	888	777	770	681	822	617	614
								Intermediate alternative projection[2]								
1977-78:																
Public	1,877	2,078	1,860	1,611	553	697	576	390	736	765	704	748	588	616	580	473
Nonpublic	4,074	4,870	3,791	3,007	2,580	3,160	2,397	1,623	813	888	777	770	681	822	617	614
1978-79:																
Public	1,881	2,082	1,867	1,619	557	701	583	398	736	765	704	748	588	616	580	473
Nonpublic	4,091	4,890	3,807	3,010	2,597	3,180	2,413	1,626	813	888	777	770	681	822	617	614

1979-80:																
Public	1,884	2,087	1,873	1,627	560	706	589	406	736	765	704	748	588	616	580	473
Nonpublic	4,107	4,910	3,824	3,012	2,613	3,200	2,430	1,628	813	888	777	770	681	822	617	614
1980-81:																
Public	1,887	2,092	1,879	1,635	563	711	595	414	736	765	704	748	588	616	580	473
Nonpublic	4,123	4,931	3,840	3,015	2,629	3,221	2,446	1,631	813	888	777	770	681	822	617	614
1981-82:																
Public	1,890	2,096	1,885	1,642	566	715	601	421	736	765	704	748	588	616	580	473
Nonpublic	4,139	4,951	3,856	3,017	2,645	3,241	2,462	1,633	813	888	777	770	681	822	617	614
1982-83:																
Public	1,893	2,101	1,891	1,650	569	720	607	429	736	765	704	748	588	616	580	473
Nonpublic	4,156	4,971	3,872	3,020	2,662	3,261	2,478	1,636	813	888	777	770	681	822	617	614
1983-84:																
Public	1,897	2,105	1,897	1,658	573	724	613	437	736	765	704	748	588	616	580	473
Nonpublic	4,172	4,991	3,888	3,023	2,678	3,281	2,494	1,639	813	888	777	770	681	822	617	614
1984-85:																
Public	1,900	2,110	1,904	1,666	576	729	620	445	736	765	704	748	588	616	580	473
Nonpublic	4,188	5,012	3,904	3,025	2,694	3,302	2,510	1,641	812	888	777	770	681	822	617	614
1985-86:																
Public	1,903	2,115	1,910	1,674	579	734	626	453	736	765	704	748	588	616	580	473
Nonpublic	4,204	5,032	3,920	3,028	2,710	3,322	2,526	1,644	813	888	777	770	681	822	617	614
1986-87:																
Public	1,906	2,119	1,918	1,681	582	738	634	460	736	765	704	748	588	616	580	473
Nonpublic	4,221	5,052	3,936	3,031	2,727	3,342	2,542	1,647	813	888	777	770	681	822	617	614
							Low alternative projection[3]									
1977-78:																
Public	1,874	2,073	1,854	1,603	550	692	570	382	736	765	704	748	588	616	580	473
Nonpublic	4,058	4,849	3,775	3,004	2,564	3,139	2,381	1,620	813	888	777	770	681	822	617	614
1978-79:																
Public	1,874	2,073	1,854	1,603	550	692	570	382	736	765	704	748	588	616	580	473
Nonpublic	4,058	4,849	3,775	3,004	2,564	3,139	2,381	1,620	813	888	777	770	681	822	617	614
1979-80:																
Public	1,874	2,073	1,854	1,603	550	692	570	382	736	765	704	748	588	616	580	473
Nonpublic	4,058	4,849	3,775	3,004	2,564	3,139	2,381	1,620	813	888	777	770	681	822	617	614

See footnotes at end of table.

Table 35.–Estimated average charges (1976-77 dollars) per full-time-equivalent student in institutions of higher education with alternative projections, by type and control of institution: United States, 1963-64 to 1986-87 – Cont.

[Charges are for the academic year and in constant 1976-77 dollars]

Year and control	Total tuition, board and room				Tuition and required fees				Board (7-day basis)				Dormitory rooms			
(1)	All (2)	University (3)	Other 4-year (4)	2-year (5)	All (6)	University (7)	Other 4-year (8)	2-year (9)	All (10)	University (11)	Other 4-year (12)	2-year (13)	All (14)	University (15)	Other 4-year (16)	2-year (17)
1980-81:																
Public	1,874	2,073	1,854	1,603	550	692	570	382	736	765	704	748	588	616	580	473
Nonpublic	4,058	4,849	3,775	3,004	2,564	3,139	2,381	1,620	813	888	777	770	681	822	617	614
1981-82:																
Public	1,874	2,073	1,854	1,603	550	692	570	382	736	765	704	748	588	616	580	473
Nonpublic	4,058	4,849	3,775	3,004	2,564	3,139	2,381	1,620	813	888	777	770	681	822	617	614
1982-83:																
Public	1,874	2,073	1,854	1,603	550	692	570	382	736	765	704	748	588	616	580	473
Nonpublic	4,058	4,849	3,775	3,004	2,564	3,139	2,381	1,620	813	888	777	770	681	822	617	614
1983-84:																
Public	1,874	2,073	1,854	1,603	550	692	570	382	736	765	704	748	588	616	580	473
Nonpublic	4,058	4,849	3,775	3,004	2,564	3,139	2,381	1,620	813	888	777	770	681	822	617	614
1984-85:																
Public	1,874	2,073	1,854	1,603	550	692	570	382	736	765	704	748	588	616	580	473
Nonpublic	4,058	4,849	3,775	3,004	2,564	3,139	2,381	1,620	813	888	777	770	681	822	617	614
1985-86:																
Public	1,874	2,073	1,854	1,603	550	692	570	382	736	765	704	748	588	616	580	473
Nonpublic	4,058	4,849	3,775	3,004	2,564	3,139	2,381	1,620	813	888	777	770	681	822	617	614
1986-87:																
Public	1,874	2,073	1,854	1,603	550	692	570	382	736	765	704	748	588	616	580	473
Nonpublic	4,058	4,849	3,775	3,004	2,564	3,139	2,381	1,620	813	888	777	770	681	822	617	614
									High alternative projection[4]							
1977-78:																
Public	1,880	2,082	1,866	1,619	556	701	582	398	736	765	704	748	588	616	580	473
Nonpublic	4,090	4,890	3,807	3,009	2,596	3,180	2,413	1,625	813	888	777	770	681	822	617	614

1978-79:																
Public	1,887	2,091	1,879	1,634	563	710	595	413	736	765	704	748	588	616	580	473
Nonpublic	4,123	4,930	3,839	3,015	2,627	3,220	2,445	1,631	813	888	777	770	681	822	617	614
1979-80:																
Public	1,893	2,101	1,891	1,650	569	720	607	429	736	765	704	748	588	616	580	473
Nonpublic	4,155	4,971	3,872	3,020	2,661	3,261	2,478	1,636	813	888	777	770	681	822	617	614
1980-81:																
Public	1,900	2,110	1,903	1,666	576	729	619	445	736	765	704	748	588	616	580	473
Nonpublic	4,188	5,012	3,904	3,025	2,694	3,302	2,510	1,641	813	888	777	770	681	822	617	614
1981-82:																
Public	1,906	2,119	1,916	1,681	582	738	632	460	736	765	704	748	588	616	580	473
Nonpublic	4,220	5,052	3,936	3,030	2,726	3,342	2,542	1,646	813	888	777	770	681	822	617	614
1982-83:																
Public	1,912	2,128	1,928	1,697	588	747	644	476	736	765	704	748	588	616	580	473
Nonpublic	4,253	5,093	3,968	3,036	2,759	3,383	2,574	1,652	813	888	777	770	681	822	617	614
1983-84:																
Public	1,919	2,137	1,940	1,712	595	756	656	491	736	765	704	748	588	616	580	473
Nonpublic	4,285	5,133	4,000	3,041	2,791	3,423	2,606	1,657	813	888	777	770	681	822	617	614
1984-85:																
Public	1,925	2,147	1,953	1,728	601	766	669	507	736	765	704	748	588	616	580	473
Nonpublic	4,318	5,174	4,032	3,046	2,824	3,464	2,638	1,662	813	888	777	770	681	822	617	614
1985-86:																
Public	1,931	2,156	1,965	1,744	607	775	681	523	736	765	704	748	588	616	580	473
Nonpublic	4,350	5,215	4,065	3,051	2,856	3,505	2,671	1,667	813	888	777	770	681	822	617	614
1986-87:																
Public	1,938	2,165	1,977	1,759	614	784	693	538	736	765	704	748	588	616	580	473
Nonpublic	4,383	5,255	4,097	3,057	2,889	3,545	2,703	1,673	813	888	777	770	681	822	617	614

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[1] Interpolated.

[2] Average of low alternative projection and high alternative projection.

[3] Projection held at the 1976-77 level.

[4] Tuition and required fees projected on trend line rates. Board and dormitory rooms held at the 1976-77 level.

SOURCE: Constant 1976-77 dollar amounts calculated by applying the Consumer Price Index (see constant-dollar index, table B-4) to charges for the base years in current unadjusted dollars as shown in table 36.

Table 36.—Estimated average charges (current dollars) per full-time-equivalent student in institutions of higher education, by type and control of institution: United States, 1963-64 to 1976-77

[Charges are for the academic year and in current unadjusted dollars]

Year and control	Total tuition, board and room				Tuition and required fees				Board (7-day basis)				Dormitory rooms			
(1)	All (2)	University (3)	Other 4-year (4)	2-year (5)	All (6)	University (7)	Other 4-year (8)	2-year (9)	All (10)	University (11)	Other 4-year (12)	2-year (13)	All (14)	University (15)	Other 4-year (16)	2-year (17)
1963-64:																
Public	926	1,026	846	630	234	281	215	97	435	468	399	361	257	277	232	172
Nonpublic	1,815	2,105	1,700	1,313	1,012	1,216	935	642	487	516	475	427	316	373	290	244
1964-65:																
Public	950	1,051	867	638	243	298	224	99	436	462	402	361	271	291	241	178
Nonpublic	1,907	2,202	1,810	1,455	1,088	1,297	1,023	702	488	515	479	464	331	390	308	289
1965-66:[1]																
Public	983	1,105	904	670	257	327	241	109	445	474	408	367	281	304	255	194
Nonpublic	2,005	2,316	1,899	1,557	1,154	1,369	1,086	768	495	529	483	473	356	418	330	316
1966-67:																
Public	1,026	1,171	947	710	275	360	259	121	457	490	417	376	294	321	271	213
Nonpublic	2,124	2,456	2,007	1,679	1,233	1,456	1,162	845	506	548	490	487	385	452	355	347
1967-68:[1]																
Public	1,064	1,199	997	789	283	366	268	144	468	496	437	402	313	337	292	243
Nonpublic	2,205	2,545	2,104	1,762	1,297	1,534	1,237	892	516	556	501	504	392	455	366	366
1968-69:																
Public	1,117	1,245	1,063	883	295	377	281	170	485	509	464	435	337	359	318	278
Nonpublic	2,321	2,673	2,237	1,876	1,383	1,638	1,335	956	534	572	520	529	404	463	382	391
1969-70:[1]																
Public	1,203	1,362	1,135	951	323	427	306	178	511	540	483	465	369	395	346	308
Nonpublic	2,530	2,420	2,420	1,993	1,533	1,809	1,468	1,034	561	608	543	546	436	503	409	413
1970-71:[1]																
Public	1,287	1,477	1,206	1,018	351	478	332	187	535	568	499	473	401	431	375	338
Nonpublic	2,738	3,163	2,599	2,103	1,684	1,980	1,603	1,109	586	641	562	560	468	542	434	434
1971-72:																
Public	1,357	1,579	1,263	1,073	376	526	354	192	551	590	509	515	430	463	400	366
Nonpublic	2,917	3,375	2,748	2,186	1,820	2,133	1,721	1,172	603	666	573	565	494	576	454	449

1972-73:																
Public	1,458	1,668	1,460	1,197	[2]407	566	455	[2]233	575	602	550	566	476	500	455	398
Nonpublic	3,038	3,512	2,934	2,273	1,898	2,226	1,846	1,221	616	664	598	595	524	622	490	457
1973-74:																
Public	1,517	1,707	1,506	1,274	[2]438	581	463	[2]274	599	621	579	591	480	505	464	409
Nonpublic	3,164	3,717	3,040	2,410	1,989	2,375	1,925	1,303	642	720	613	624	533	622	502	483
1974-75:																
Public	1,617	1,797	1,579	1,381	[2]470	597	473	[2]316	642	674	612	640	505	526	494	425
Nonpublic	3,386	3,962	3,227	2,504	2,131	2,534	2,035	1,341	686	752	661	650	569	676	531	513
1975-76:																
Public	1,725	1,937	1,684	1,482	495	646	501	341	687	719	654	699	543	572	529	442
Nonpublic	3,691	4,344	3,474	2,770	2,334	2,798	2,185	1,479	740	812	714	711	617	734	575	580
1976-77:																
Public	1,874	2,073	1,854	1,603	550	692	570	382	736	765	704	748	588	616	580	473
Nonpublic	4,058	4,849	3,775	3,004	2,564	3,139	2,381	1,620	813	888	777	770	681	822	617	614

[1] Based on interpolated data shown in preceding constant dollar table.

[2] Revised from previously published data.

NOTE.–Availability dictated the usage of differing forms of full-time enrollments to calculate weighted averages, ranging from full-time-equivalent of total enrollment to full-time undergraduate degree-credit enrollments.

SOURCES: U.S. Department of Health, Education, and Welfare, *National Center for Education for Education Statistics*, publications: (1) *Higher Education Basic Student Charges*, 1963-64, 1964-65, 1966-67, 1968-69, 1971-72 thru 1974-75, and a special analysis of data which was reported for 1975-76 and 1976-77, and (2) *Opening Fall Enrollment in Higher Education*, 1963 through 1976.

APPENDIX A

General Methodology

Methodology Tables

Estimation Methods

Classification of Degrees by Field of Study

Changes in Degree-Level Definitions

Glossary

General Methodology

The 1977 projections of educational data by the National Center for Education Statistics (NCES) are based on reports of regular elementary and secondary day schools, both public and private, and of accredited institutions of higher education listed in the *Education Directory* of the National Center for Education Statistics.[1]

Projections of enrollments in elementary and secondary schools are based on a grade-retention or cohort-survival method. This is one of the most commonly used methods for making projections of elementary and secondary school enrollments. The method is based on the entrance of 6-year-olds into first grade and their subsequent progress through elementary and secondary school as determined by projected grade-retention rates.

Kindergarten enrollments, first-grade enrollments, post-graduate enrollments and enrollments in elementary and secondary ungraded and special classes are projected separately. Grades 2 through 12 are projected on the basis of grade retention rates.

Three alternative projections of enrollments in elementary and secondary schools are shown. The three alternative projections are based on the entrance of different numbers of 3-, 4-, and 5-year-olds into nursery schools and kindergartens beginning in 1979 and the entrance of different numbers of 6-year-olds into the first grade beginning in 1982. These differences are based on three alternative fertility assumptions used by the Bureau of the Census in their population projections (for details see appendix B, table B-1).

Projections of classroom teachers and current expenditures in regular elementary and secondary schools are based on projections of enrollments in these schools. Projections of pupil-teacher ratios and projections of current expenditures per pupil were applied to projected enrollments to obtain projections of classroom teachers and current expenditures in elementary and secondary schools.

For both classroom teachers and current expenditures three alternative projections are shown. In each case the high alternative projections are based on the assumptions that the past straight line trends in pupil-teacher ratios and current expenditures per pupil will continue through 1986. The low alternative projections are based on the assumption that the 1976 values for these rates will remain constant through 1986. The intermediate alternative projections are based on the assumption that the average of the high and low alternatives will occur through 1986. The effects of inflation are removed from the current expenditure figures by converting actual dollar amounts (current dollars) to constant 1976-77 dollars.

Projections of enrollments in institutions of higher education by sex are based on age-specific enrollment rates. Enrollment rates for individual ages 16 through 24 and for age groups 25-29 and 30-34 were computed for 1967 to 1976. For age groups under 16 and over 35, projections are based on the past enrollments themselves, since the populations for these age groups are too large compared to their respective enrollments to be meaningful. The higher education enrollments by age were obtained from the Bureau of the Census.[2]

Three alternative projections of enrollment in institutions of higher education are shown. The high alternative projections are based on the assumption that 1967 to 1976 straight line trends in enrollment rates will continue through 1986. The low alternative projections are based on the assumption that the average of the 1975 and 1976 enrollment rate will remain constant through 1986. The intermediate alternative projections are based on the assumption that the average of the high and low alternative enrollment rates will occur through 1986.

The three alternative projections of enrollments in institutions of higher education were converted to full-time-equivalent enrollments (see table A-1 for details). The three alternative projections of full-time-equivalent

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[1] Arthur Podolsky and Carolyn R. Smith, U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Education Directory 1976-77, Colleges and Universities* (Washington, D.C., U.S. Government Printing Office, 1977).

[2] U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-20, "Population Characteristics, School Enrollment," 1967 through 1976 (Washington, D.C., U.S. Government Printing Office, 1968-1977).

enrollment were used to make projections of faculty and current expenditures in institutions of higher education. Projections of full-time-equivalent student-staff ratios and expenditures for student education per full-time-equivalent student were applied to the three alternative projections of full-time-equivalent enrollment to obtain three alternative projections of faculty and current education in institutions of higher education.

Projections of high school graduates are based primarily on the assumption that the percentage that high school graduates represent of the average of the 17- and 18-year-old populations will remain constant at the 1975-76 level through 1986-87. This rate has remained stable since the late 1960's.

Projections of bachelor's, master's and doctor's degrees are based primarily on the assumption that for each sex and level the percentage that degree recipients represent of the corresponding composite population will equal the average of the 1975-76 level and the projected 1960-61 to 1975-76 trend values. The composite population (for details see appendix B, table B-3) is based on recent age distributions of degree recipients by level and sex.

Simple linear regression was the projection technique most frequently used. Straight lines were fitted to a ratio (such as enrollment rates, pupil-teacher ratios, expenditure per pupil, etc.) as the dependent variable and time in years as the independent variable.

When it was decided that continued straight line growth would be unrealistic, logistic growth curves of the form

$$y = \frac{K}{1 + e^{-(a+bt)}}$$

were used. Since the logistic growth curve is asymptotic (has an upper or lower limit) at the point K, an asymptote must be selected. In many cases, the selection of an asymptote is limited by the nature of the statistic itself (no more than 100 percent of 5-year-olds can be enrolled) or by consideration of external factors (it is extremely unlikely that the funds required to support a 10-to-1 pupil-teacher ratio nationally will be available during the next 10 years). However, in some cases the selection of an asymptote is somewhat arbitrary. Logistic growth curves are fitted by making the transformation

$$z = \ln \frac{y}{K - y}$$

and then fitting a straight line to the z values. It should be noted that the standard errors shown in table A-1 through A-5 are in terms of the z values, not the y values.

Whenever conventional trend line analysis was considered inadequate due to lack of fit to past data or an apparent significant change in the trend line, double exponential smoothing was used. Exponential smoothing is an exponentially weighted moving average technique which gives proportionately more weight to the most recent observations. In each case, the smoothing constant, α, which produced the minimum mean absolute deviation, was selected.

For each major area (enrollment, degrees, teachers, and expenditures), the tables that follow show in detail the equations, constants, standard errors, and indexes of determination that were used in computing each projection. Footnotes explain the meaning of the variables and constants used.

The tables are followed by sections which explain the methods used in estimating missing data of the past 11 years, define the meaning of terms as used by NCES in requesting data, and outline the classification of summarized degree data.

Methodology Tables

Table A-1.–Methodology (enrollment) (chapter II)

	Text table number	Projection method					
		Constant	Trend				
			Projected equation (y=percent; t=year; 1967=1)[1]	Index of determination	Standard error	Adjusted equation[2]	Other
Fall enrollment (independent public kindergarten and nursery schools)	2	....	....	....	....	....	(3)
3 years old[4]		....	$y'=1.00+0.45t$	0.94	0.41		
4 years old[5]		....	$y'=18.89+1.04t$	(6)	(6)		
5 years old[7]		....	$y'=83/[1+e^{-(0.44+0.11t)}]$	.98	.058		
6 years old[8]		....	$y'=2.63+0.25t$	.90	.29	$y'=3.22+0.22t$	
Fall enrollment (independent nonpublic kindergarten and nursery schools)	2	....	....	....	....	....	(9)
3 years old[10]	....		$y'=14.70+0.70t$	(11)	(11)		
4 years old[12]	....		$y'=22.99+0.80t$	(13)	(13)		
5 years old[14]	....	11.60					
6 years old[15]	....	.77					
Fall enrollment (regular public day schools)	3						
Kindergarten[16]	....	84.10					
Grade 1[17]	....	94.60					
Grade 2[18]	....	95.20					
Grade 3[18]	....	98.60					
Grade 4[18]	....	99.10					
Grade 5[18]	....	99.50					
Grade 6[18]	....	99.90					
Grade 7[18]	....	102.70					
Grade 8[18]	....	98.70					
Grade 9[18]	....	104.40					
Grade 10[18]	....	96.70					
Grade 11[18]	....	90.90					
Grade 12[18]	....	89.70					
Elementary ungraded[19]	....	....	$y'=0.94+0.21t$	.94	.19		
Secondary ungraded[20]	....	2.00					
Postgraduate[21]	....	23,000					
Organization level[22]	4	64.0					

See footnotes at end of table.

Table A-1.–Methodology (enrollment) (chapter II) – Cont.

	Text table number	Projection method					
		Constant	Trend				Other
			Projected equation (y=percent; t=year; 1967=1)[1]	Index of determination	Standard error	Adjusted equation[2]	
Fall enrollment (regular nonpublic day schools)	3,4						
Grades kindergarten to 8[23]	....	3,600,000					
Grades 9 to 12[24]	....	1,400,000					
Fall enrollment (institutions of higher education)							
Men, high alternative	5-7						
Less than 16 years old[25]	....	3,000					
16 years old[26]	....	....	$y'=0.069+0.054t$	0.67	0.12	$y'=-0.134+0.064t$	
17 years old[27]		4.76					
18 years old[27]		31.99					
19 years old[27]		35.37					
20 years old[27]		31.44					
21 years old[27]		28.93					
22 years old[27]		22.11					
23 years old[27]		17.91					
24 years old[27]		15.88					
25-29 years old[26]			$y'=8.71+0.40t$	.92	.38	$y'=7.38+0.47t$	
30-34 years old[26]			$y'=3.79+0.31t$	.80	.49	$y'=2.72+0.36t$	
35 years old and over[28]			$y'=347+42t$	.61	62	$y'=248+48t$	
Full-time[29]							
Public 4-year institutions[30]	....	....	$y'=36.12-0.90t$	.86	.66	$y'=37.16-0.96t$	
Public 2-year institutions[31]	....	15.35					
Private 4-year institutions[30]	....	....	$y'=17.43-0.41t$	.77	.41	$y'=18.10-0.45t$	
Private 2-year institutions[31]	....	.79					
Part-time[29]							
Public 4-year institutions[31]	....	12.22					
Public 2-year institutions[30]	....	....	$y'=13.14+0.96t$	.86	.70	$y'=13.65+0.92t$	
Private 4-year institutions[30]	....	....	$y'=6.02-0.11t$	.63	.15	$y'=6.12-0.12t$	
Private 2-year institutions[31]	....	.29					
Fall enrollment (institutions of higher education)							
Men, intermediate alternative	5-7						
Less than 16 years old[25]	....	3,000					
16 years old	....	....	....	....	....	....	(32)
17 years old[27]		4.76					
18 years old[27]		31.99					
19 years old[27]		35.37					
20 years old[27]		31.44					

21 years old[27]		28.93					
22 years old[27]		22.11					
23 years old[27]		17.91					
24 years old[27]		15.88					
25-29 years old	....	....	....	....	....	....	(32)
30-34 years old	....	....	....	....	....	....	(32)
35 years old and over	....	....	....	....	....	....	(33)
Full-time[29]							
Public 4-year institutions	....	....	....	....	....	....	(34)
Public 2-year institutions[31]		15.35					
Private 4-year institutions	....	....	....	....	....	....	(34)
Private 2-year institutions[31]		.79					
Part-time[29]							
Public 4-year institutions[31]		12.22					
Public 2-year institutions	....	....	....	....	....	....	(34)
Private 4-year institutions[30]	....	....	$y'=6.02-0.11t$	0.63	0.15	$y'=6.12-0.12t$	
Private 2-year institutions[31]		.29					
Fall enrollment (institutions of higher education)							
Men, low alternative	5-7						
Less than 16 years old[25]		3,000					
16 years old[27]		.58					
17 years old[27]		4.76					
18 years old[26]	....	....	$y'=38.33-0.61t$	.61	1.59	$y'=34.20-0.41t$	
19 years old[27]		35.37					
20 years old[27]		31.44					
21 years old[27]		28.93					
22 years old[27]		22.11					
23 years old[27]		17.91					
24 years old[27]		15.88					
25-29 years old[2]		12.28					
30-34 years old		6.88					
35 years old and over[25]		491,000					
Full-time[29]							
Public 4-year institutions[30]	....	....	$y'=25/[1-e^{-(1.154+0.078t)}]$	.84	.064	$y'=25/[1-e^{-(1.060+0.085t)}]$	
Public 2-year institutions[31]	....	15.35					
Private 4-year institutions[30]	....	....	$y'=10/[1-e^{-(0.846+0.039t)}]$	.75	.042	$y'=10/[1-e^{-(0.778+0.044t)}]$	
Private 2-year institutions[31]		.79					
Part-time[29]							
Public 4-year institutions[31]		12.22					
Public 2-year institutions[31]	....	....	$y'=25/[1+e^{-(0.081+0.169t)}]$	.85	.13	$y'=25/[1+e^{-(0.189+0.162t)}]$	
Private 4-year institutions[30]	....	....	$y'=6.02-0.11t$	.63	.15	$y'=6.12-0.12t$	
Private 2-year institutions[31]		.29					
Fall enrollment (institutions of higher education)							
Women, high alternative	5-7						

See footnotes at end of table.

Table A-1.–Methodology (enrollment) (chapter II) – Cont.

	Text table number	Projection method					
		Constant	Trend				
			Projected equation (y=percent; t=year; 1967=1)[1]	Index of determination	Standard error	Adjusted equation[2]	Other
Less than 16 years old[25]		3,000					
16 years old[26]			$y'=0.221+0.058t$	0.596	0.153	$y'=-0.022+0.070t$	
17 years old[27]		7.40					
18 years old[27]		36.16					
19 years old[26]	....	....	$y'=27.23+0.90t$	.74	1.71	$y'=31.04+0.70t$	
20 years old[26]			$y'=23.71+0.63t$	.60	1.66	$y'=25.34+0.55t$	
21 years old[26]			$y'=17.84+0.82t$	.84	1.15	$y'=16.90+0.86t$	
22 years old[26]			$y'=8.42+0.69t$	.76	1.24	$y'=11.05+0.56t$	
23 years old[26]			$y'=5.83+0.56t$	.96	.34	$y'=5.40+0.58t$	
24 years old[26]	....	....	$y'=3.97+0.69t$	.81	1.07	$y'=5.38+0.62t$	
25-29 years old[26]			$y'=2.11+0.50t$	.95	.37	$y'=1.36+0.54t$	
30-34 years old[26]			$y'=1.74+0.31t$	.91	.32	$y'=1.30+0.34t$	
35 years old and over[28]			$y'=365+64t$	1.00	7.9		
Full-time[29]							
Public 4-year institutions[30]			$y'=35.11-1.13t$	.97	.38	$y'=35.72-1.17t$	
Public 2-year institutions[30]			$y'=12.30+0.24t$	.83	.19		
Private 4-year institutions[30]			$y'=15.71-0.53t$	.90	.32	$y'=16.24-0.56t$	
Private 2-year institutions[31]		1.10					
Part-time[29]							
Public 4-year institutions[31]		14.88					
Public 2-year institutions[30]			$y'=15.24+1.40t$	.95	.56	$y'=14.47+1.45t$	
Private 4-year institutions[30]			$y'=5.277+0.043t$	.851	.033		
Private 2-year institutions[31]		.27					
Fall enrollment (institutions of higher education)							
Women, intermediate alternative	5-7						
Less than 16 years old[25]		3,000					
16 years old	....	....	....	....	....	....	(32)
17 years old[27]		7.40					
18 years old[27]		36.16					
19 years old	....	....	....	....	....	....	(32)
20 years old							(32)
21 years old							(32)
22 years old							(32)
23 years old							(32)
24 years old							(32)
25-29 years old							(32)
30-34 years old							(32)

35 years old and over	....	....	....	....	....	....	(33)
Full-time[29]							
Public 4-year institutions	....	....	....	....	....	....	(34)
Public 2-year institutions[30]			$y'=12.30+0.24t$	0.83	0.19		
Private 4-year institutions	....	....	....	....	....	....	(34)
Private 2-year institutions[31]		1.10					
Part-time[29]							
Public 4-year institutions[31]		14.88					
Public 2-year institutions	....	....	....	....	....	....	(34)
Private 4-year institutions[30]			$y'=5.277+0.043t$	.851	.033		
Private 2-year institutions[31]		.27					
Fall enrollment (institutions of higher education)							
Women, low alternative	5-7						
Less than 16 years old[25]		3,000					
16 years old[27]		.68					
17 years old[27]		7.40					
18 years old[27]		36.16					
19 years old[27]		36.48					
20 years old[27]		29.41					
21 years old[27]		25.45					
22 years old[27]		15.96					
23 years old[27]		11.19					
24 years old[27]		10.66					
25-29 years old[27]		6.83					
30-34 years old[27]		4.88					
35 years old and over[25]		680,000					
Full-time[29]							
Public 4-year institutions[30]			$y'=20/[1-e^{-(0.823+0.060t)}]$	.977	.017	$y'=20/[1-e^{-(0.797+0.062t)}]$	
Public 2-year institutions[30]			$y'=12.30+0.24t$	.83	.19		
Private 4-year institutions[30]			$y'=10/[1-e^{-(0.981+0.088t)}]$	.894	.055	$y'=10/[1-e^{-(6.894+0.094t)}]$	
Private 2-year institutions[31]		1.10					
Part-time[29]							
Public 4-year institutions[31]		14.88					
Public 2-year institutions[30]			$y'=30/[1+e^{-(0.008+0.204t)}]$	.962	.075	$y'=30/[1+e^{(0.093-0.211t)}]$	
Private 4-year institutions[30]			$y'=5.277+0.043t$	.851	.033		
Private 2-year institutions[31]		.28					
Full-time-equivalent credit fall enrollment	8						
Public 4-year institutions[35]	....	38.5					
Private 4-year institutions[35]	....	37.6					
Public 2-year institutions[35]	....	36.4					
Private 2-year institutions[35]	....	40.2					
Graduate enrollment	9						
Men							
Full-time[36]	....	....	$y'=9.59+0.13t$	.90	.080	$y'=9.68+0.12t$	
Part-time[37]	....	41.4					

See footnotes at end of table.

Table A-1.–Methodology (enrollment) (chapter II) – Cont.

	Text table number	Projection method					
		Constant	Trend				
			Projected equation (y=percent; t=year; 1967=1)[1]	Index of determination	Standard error	Adjusted equation[2]	Other
Women							
Full-time[36]	....	....	$y'=6.12+0.34t$	.97	.11		
Part-time[37]	....	42.3					
Public							
Men full-time[38]	....	66.6					
Men part-time[39]	....	67.2					
Women full-time[38]	....	68.2					
Women part-time[39]	....	75.6					

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[1] Equation fitted by least squares technique unless otherwise noted.

[2] Adjusted by relocating curve through last observed point and 1986 point on fitted curve.

[3] Total public kindergarten and nursery school enrollment less kindergarten enrollment in regular public day schools.

[4] y = percent 3-year-olds enrolled in public kindergarten and nursery schools represents of population aged 3 years.

[5] y = percent 4-year-olds enrolled in public kindergarten and nursery schools represents of population aged 4 years.

[6] Straight line fit by double exponential smoothing, $\alpha = 0.50$, mean absolute deviation = 1.01, t = 0 in 1976.

[7] y = percent 5-year-olds enrolled in public kindergarten and nursery schools represents of population aged 5 years.

[8] y = percent 6-year-olds enrolled in public kindergarten and nursery schools represents of population aged 6 years.

[9] Total nonpublic kindergarten and nursery schools enrollment less kindergarten enrollment in regular nonpublic day schools.

[10] y = percent 3-year-olds enrolled in private kindergarten and nursery schools represents of population aged 3 years.

[11] Straight line fit by double exponential smoothing, $\alpha = 0.50$, mean absolute deviation = 2.88, t = 0 in 1976.

[12] y = percent 4-year-olds enrolled in private kindergarten and nursery schools represents of population aged 4 years.

[13] Straight line fit by double exponential smoothing, $\alpha = 0.80$, mean absolute deviation = 0.82, t = 0 in 1976.

[14] Constant = 1971 to 1976 average percent that 5-year-olds enrolled in private kindergarten and nursery schools represents of population aged 5 years.

[15] Constant percent in 1976 that 6-year-olds enrolled in private kindergartens and nursery schools represents of population aged 6 years.

[16] Constant = percent in 1976 that regular public kindergarten and nursery enrollment represents of total public kindergarten and nursery enrollment.

[17] Constant = percent in 1976 that 1st-grade enrollment represents of population aged 6 years.

[18] Constant = 1971 to 1976 average percent that the enrollment in this grade represents of the enrollment in the preceding grade in the preceding year.

[19] y = percent elementary ungraded enrollment represents of population aged 5 to 13.

[20] Constant = 1976 percent secondary ungraded enrollment represents of population aged 14 to 17.

[21] Constant = postgraduate enrollment in 1976.

[22] Constant = 1976 percent that 7th and 8th grades organized as secondary represents of total 7th and 8th grades.

[23] Constant = nonpublic elementary enrollment in 1976.

[24] Constant = nonpublic secondary enrollment in 1976.

[25] Constant = 1976 enrollment for the age group.

[26] y = enrollment rate for age group.

[27] Constant = average of the 1975 and 1976 enrollment rates for the age group.

[28] y = enrollment for the age group.

[29] For equations, t = 1 in 1972.

[30] y = percent that enrollment in this category represents of total enrollment.

[31] Constant = average of 1972 to 1976 percentages that enrollments in this category represents of total enrollment.

[32] Projected enrollment rates = the averages of the high and low alternative projected enrollment rates for this category.

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[33] Projected enrollment = the average of the high and low alternative projected enrollments for this category.

[34] The projected percentage that enrollment in this category represents of total enrollment = the average of the high and low alternative projected percentages of totals for this category.

[35] Constant = average of 1972 to 1976 percentages that the full-time-equivalent of part-time enrollment represents of part-time enrollment.

[36] y = percent graduate full-time enrollment represents of total full-time enrollment; t = 1 in 1972.

[37] Constant = 1976 percent that graduate part-time enrollment represents of total part-time enrollment.

[38] Constant = 1976 percent that full-time enrollment in public institutions represents of total full-time enrollment.

[39] Constant = 1976 percent that part-time enrollment in public institutions represents of total part-time enrollment.

Table A-2.–Methodology (graduates and degrees) (chapter III)

	Text table number	Projection method					
		Constant	Trend				Other
			Least squares equation (y=percent; t=year; 1960-61=1)[1]	Index of determination	Standard error	Adjusted equation[2]	
High school graduates:	10						
Public							
Boys[3]	....	65.2					
Girls[3]	....	68.4					
Nonpublic	....	....	....	....	....	....	(4)
Boys[5]	....	48.1					
Bachelor's degrees conferred on men[6]	11	5.38	$y'_t=0.669(u_{t-2}-y'_{t-1})$				
Selected field[7]	13						
Social sciences[8]	....		$y'=12/[1-e^{-(0.705+0.043t)}]$	0.58	0.128	$y'=12/[1-e^{-(1.180+.020t)}]$	
Psychology[9]	....	4.52					
Public affairs and services[10]	....		$y'=5/[1+e^{-(-3.98+0.25t)}]$	.73	.76	$y'=5/[1+e^{-(-1.29+0.15t)}]$	
Library science[9]	....	.01					
Architecture and environmental design[10]	....		$y'=0.566+0.047t$	.86	.093	$y'=0.933+0.033t$	
Fine and applied arts[11]	....		$y'=3.25+.13t$				
Foreign languages[8]	....		$y'=0.5/[1-e^{-(0.225+0.074t)}]$	.94	.697	$y'=0.5/[1-e^{-(0.462+0.0}$[illegible]$^{3t)}]$	
Communications[10]	....		$y'=0.018+0.130t$	.82	.304	$y'=0.936+0.096t$	
Letters[8]	....		$y'=6.59-0.16t$	.81	.27	$y'=5.78-0.12t$	
Mathematics and statistics[10]	....		$y'=1/[1-e^{-(0.123+0.029t)}]$	.73	.086	$y'=1/[1-e^{-(0.591+0.011t)}]$	
Computer and information sciences[12]	....		$y'=-0.175+0.090t$	.97	.063	$y'=-0.184+0.090t$	
Engineering	....						(13)
Physical sciences[9]	....	3.44					
Biological sciences[9]	....	7.03					
Agriculture and natural resources[8]	....		$y'=2.403+0.047t$	.60	.135	$y'=2.841+0.027t$	
Health professions[10]	....		$y'=0.85+0.12t$	.75	.22	$y'=1.26+0.10t$	
Accounting	....						(14)
Business and management[9]	....	17.24					
Education[10]	....		$y'=10.603-0.199t$	.52	.560	$y'=9.707-0.086t$	
Other[9]	....	4.80					
Bachelor's degrees conferred on women[6]	11	4.70	$y'_t=0.749(u_{t-2}-y'_{t-1})$				
Selected fields[7]	13						
Social sciences[8]	....		$y'=8/[1-e^{-(0.560+0.042t)}]$	.68	.092	$y'=8/[1-e^{-(0.8}$[illegible]$^{0+0.029t)}]$	
Psychology[9]	....	6.43					
Public affairs and services[10]	....		$y'=-0.50+0.20t$	.84	.42	$y'=1.35+0.13t$	
Library science[9]	....	.19					
Architectural and environmental design[10]			$y'=-0.062+0.023t$	.76	.064	$y'=0.221+0.012t$	
Fine and applied arts[10]	....		$y'=4.669+0.078t$	.58	.329	$y'=5.105+0.062t$	

Foreign languages[15]			$y'=0.50/[1-e^{-(0.083+0.010t)}]$	0.95	.007	$y'=0.50/[1-e^{-(0.108+.009t)}]$	
Communications[10]	....		$y'=0.105+0.097t$	.79	.248	$y'=1.192+0.057t$	
Letters[12]	....		$y'=14.83-0.55t$	.78	1.09	$y'=12.01-0.42t$	
Mathematics and statistics[10]	....		$y'=0.50/[1-e^{-(0.121+0.015t)}]$	.72	.037	$y'=0.50/[1-e^{-(0.030+.007t)}]$	
Computer and information sciences[8]	....		$y'=-0.054+0.027t$	.96	.020	$y'=-0.004+0.025t$	
Engineering	....						
Physical sciences[9]	....	0.98					(13)
Biological sciences[16]	....		$y'=8/[1+e^{-(-0.89+0.18t)}]$	.94	.09	$y'=8/[1+e^{-(-0.82+0.18t)}]$	
Agriculture and natural resources[10]	....		$y'=-0.115+0.038t$	.64	.140	$y'=0.780+0.004t$	
Health professions[15]	....		$y'=14/[1+e^{-(-1.063+0.164t)}]$	.78	.280	$y'=14/[1+e^{-(-0.315+0.127t)}]$	
Accounting[10]	....		$y'=0.031+0.071t$	.67	.244	$y'=1.620+0.013t$	
Business and management[8]	....		$y'=1.28+0.23t$	.70	.53	$y'=3.38+0.14t$	
Education[10]	....		$y'=47.01-1.11t$	.92	1.66	$y'=41.07-0.89t$	
Other[9]	....		$y'=10/[1+e^{-(-0.92+0.18t)}]$	.83	.26	$y'=10/[1+e^{-(-0.10+0.14t)}]$	
Master's degrees conferred on men[17]	11	2.14					
Selected fields[7]	14						
Social sciences[18]	....		$y'=10.64-0.28t$	.85	.43	$y'=9.26-0.22t$	
Psychology[19]	....	2.49					
Public affairs and services[20]	....		$y'=1.028+0.228t$	.81	.545	$y'=3.387+0.140t$	
Library science[20]	....		$y'=0.797+0.018t$	.60	.071	$y'=0.695+0.022t$	
Architecture and environmental design[20]	....		$y'=0.301+0.072t$	.91	.110	$y'=0.065+0.036t$	
Fine and applied arts[21]	....		$y'=2.68-0.03t$				
Foreign languages[22]	....		$y'=0.50/[1-e^{-(0.119+0.098t)}]$	.91	.097	$y'=0.50/[1-e^{-(0.435+0.081t)}]$	
Communication[20]	....		$y'=0.129+0.059t$	.84	.136	$y'=0.190+0.056t$	
Letters[23]	....		$y'=4.471-0.119t$	.86	.178	$y'=3.998-0.098t$	
Mathematics and statistics[20]	....		$y'=1/[1-e^{-(0.118+0.039t)}]$	.67	.136	$y'=1/[1-e^{-(0.969+0.006t)}]$	
Computer and information sciences[23]	....		$y'=0.13+0.11t$	.91	.14	$y'=-0.19+0.13t$	
Engineering[20]	....		$y'=4/[1-e^{-(0.238+.018t)}]$	.88	.034	$y'=4/[1-e^{-(0.283+0.017t)}]$	
Physical sciences[20]	....		$y'=0.50/[1-e^{-(0.066+0.007t)}]$	.95	.008	$y'=0.50/[1-e^{-(0.113+0.005t)}]$	
Biological sciences[20]	....		$y'=2/[1-e^{-(0.776+0.031t)}]$	.62	.120	$y'=2/[1-e^{-(0.989+0.023t)}]$	
Agriculture and natural resources[19]	....	1.71					
Health professions[20]	....		$y'=1.439+0.057t$	.68	.193	$y'=1.835+0.043t$	
Accounting[20]	....		$y'=.666+0.028t$	.54	.129	$y'=1.242+0.007t$	
Business and management[20]	....		$y'=32/[1+e^{-(-1.36+0.13t)}]$	.95	.14	$y'=32/[1+e^{-(-1.45+0.13t)}]$	
Education[19]	....	27.30					
Other[19]	....	3.42					
Master's degrees conferred on women[24]	11	1.81	$y'=0.250+0.096t$	0.983	.063	$y'=0.292+0.095t$	(25)
Selected fields[7]	14						
Social sciences[26]	....		$y'=3.88-0.28t$				
Psychology[27]	....		$y'=2.47+0.11t$				
Public affairs and services[19]	....	5.33					
Library science[23]	....		$y'=7.02-0.17t$	.72	.41	$y'=5.81-0.12t$	
Architecture and environmental design[20]	....		$y'=-0.053+0.029t$	.87	.056	$y'=0.057+.025t$	
Fine and applied arts[19]	....	2.98					

See footnotes at end of table.

Table A-2.–Methodology (graduates and degrees) (chapter III) – Cont.

	Text table number	Projection method					
		Constant	Trend				Other
			Least squares equation (y=percent; t=year; 1960-61=1)[1]	Index of determination	Standard error	Adjusted equation[2]	
Foreign languages[18]	....		$y'=0.50/[1-e^{-(0.062+0.022t)}]$	0.85	.033	$y'=0.50/[1-e^{-(0.186+0.016t)}]$	
Communications[20]	....		$y'=0.022+0.053t$	.85	.112	$y'=0.111+0.050t$	
Letters[23]	....		$y'=1/[1-e^{-(0.085+0.010t)}]$	.79	.020	$y'=1/[1-e^{-(0.167+.007t)}]$	
Mathematics and statistics[20]	....		$y'=2.319-0.065t$	.53	.303	$y'=1.422-0.032t$	
Computer and information sciences[23]	....		$y'=-0.014+0.025t$	.95	.021	$y'=-0.073+0.028t$	
Engineering[20]	....		$y'=0.051+0.017t$	.85	.036	$y'=0.245+.010t$	
Physical sciences[20]	....		$y'=0.25/[1-e^{-(0.144+0.020t)}]$	.83	.045	$y'=0.25/[1-e^{-(0.422+0.010t)}]$	
Biological sciences[20]	....		$y'=1/[1-e^{-(0.373+0.036t)}]$	.64	.133	$y'=1/[1-e^{-(0.974+0.013t)}]$	
Agriculture and natural resources[20]	....		$y'=0.083+0.011t$	.73	.032	$y'=0.260+0.004t$	
Health professions[20]	....		$y'=1.83+0.19t$	.78	.50	$y'=4.00+0.11t$	
Accounting[18]	....		$y'=0.025+0.019t$	.69	.443	$y'=0.223+0.010t$	
Business and management[20]	....		$y'=-0.027+0.126t$	.70	.405	$y'=2.716+0.024t$	
Education[19]	....	56.94					
Other[19]	....	3.45					
Doctor's (except first-professional) degrees conferred on men[28]	11	.360	$y'=0.456-0.012t$	.745	.017	$y'=0.437-0.011t$	(29)
Selected fields[7]	15						
Social sciences[30]	....		$y'=14/[1+e^{-(1.089+0.084t)}]$	.70	.269	$y'=14/[1+e^{-(1.137+0.082t)}]$	
Psychology[31]	....		$y'=4.412+0.141t$	.61	.428	$y'=5.667+0.087t$	
Public affairs and services[30]	....		$y'=0.297+0.025t$	.59	.100	$y'=0.637+0.012t$	
Library science[32]	....	.15					
Architecture and environmental design[30]	....		$y'=-0.025+0.016t$	.93	.023	$y'=0.033+0.014t$	
Fine and applied arts[30]	....		$y'=1/[1-e^{-(0.333+0.041t)}]$	.76	.115	$y'=1/[1-e^{-(0.065+0.051t)}]$	
Foreign languages[32]	....	1.71					
Communications[30]	....		$y'=-0.065+0.035t$	.73	.104	$y'=0.186+0.025t$	
Letters[33]	....		$y'=6.00-0.15t$				
Mathematics and statistics[31]	....		$y'=2/[1-e^{-(0.453+0.046t)}]$	.78	.093	$y'=2/[1-e^{-(0.816+0.029t)}]$	
Computer and information sciences[31]	....		$y'=1.5/[1+e^{-(-3.26+0.32t)}]$	.90	.39	$y'=1.5/[1+e^{-(-3.94+0.35t)}]$	
Engineering[34]	....		$y'=5/[1-e^{-(0.362+0.025t)}]$	.90	.026	$y'=5/[1-e^{-(0.442+0.021t)}]$	
Physical sciences[30]	....		$y'=8.2/[1-e^{-(0.383+0.044t)}]$	.91	.069	$y'=8.2/[1-e^{-(0.0580+0.037t)}]$	
Biological sciences[30]	....		$y'=11.607-0.087t$	.56	.381	$y'=11.410-0.079t$	
Agriculture and natural resources[30]	....		$y'=1/[1-e^{-(0.191+0.011t)}]$	.92	.016	$y'=1/[1-e^{-(0.169+0.012t)}]$	
Health professions[32]	....	1.56					
Accounting[32]	....	.19					
Business and management[30]	....		$y'=1.52+0.10t$	.86	.21	$y'=1.64+0.10t$	
Education[30]	....		$y'=13.12+0.43t$	.94	.56	$y'=12.24+0.47t$	

Other[35]	....		$y'=7/[1+e^{-(-1.66+0.18t)}]$	0.72	0.40	$y'=7/[1+e^{-(-0.51+0.13t)}]$	
Doctor's (except first-professional) degrees conferred on women[29]	11	0.110	$y'=0.003+0.006t$	.975	.005		(28)
Selected fields[7]	15						
Social sciences[30]	....		$y'=9.59+0.18t$	.76	.49	$y'=9.27+0.19t$	
Psychology[32]	....	10.50					
Public affairs and services[32]		1.31					
Library science[32]	....	.41					
Architecture and environmental design[30]			$y'=-0.017+0.009t$	.57	.038	$y'=0.089+0.005t$	
Fine and applied arts[30]	....		$y'=1/[1-e^{-(0.204+0.020t)}]$	.79	.051	$y'=1/[1-e^{-(0.397+0.013t)}]$	
Foreign languages[32]	....	5.31					
Communication[30]	....		$y'=-0.112+0.040t$	.75	.113	$y'=0.178+0.029t$	
Letters[32]	....	11.45					
Mathematics and statistics[35]	....		$y'=0.50/[1-e^{-(0.178+0.025t)}]$	.77	.048	$y'=0.50/[1-e^{-(0.345+0.017t)}]$	
Computer and information sciences[31]			$y'=-0.037+0.023t$	.71	.057	$y'=0.062+0.019t$	
Engineering[32]	....	.85					
Physical sciences[30]	....		$y'=2/[1-e^{-(0.233+0.027t)}]$	.77	.071	$y'=2/[1-e^{-(0.445+0.018t)}]$	
Biological sciences[34]	....		$y'=3.5/[1-e^{-(0.243+0.020t)}]$	.89	.023	$y'=3.5/[1-e^{-(0.302+0.017t)}]$	
Agriculture and natural resources[32]	....	.78					
Health professions[30]			$y'=0.32+0.12t$	.80	.30	$y'=-0.09+0.14t$	
Accounting[32]	....	.06					
Business and management[32]	....	.60					
Education[34]			$y'=27.89+0.42t$	.64	1.01	$y'=30.16+0.31t$	
Other[32]	....	3.33					
First-professional degrees conferred, total[36]	11						
Selected fields	16						
Medicine	....						(37)
Dentistry	....						(37)
Other health professions	....						(37)
Law	....						(38)
Theology	....						(38)
Other[39]	....	2,050					
Women							
Medicine[40]	....		$y'=2.01+1.24t$	.85	2.56	$y'=10.65+0.87t$	(41)
Dentistry[40]	....		$y'=-3.17+0.81t$	.74	2.36	$y'=7.29+0.36t$	(41)
Other health professions[40]	....		$y'=-0.90+1.12t$	.83	2.54	$y'=16.08+0.38t$	(41)
Law[42]	....	73.21; 9,300	$y'=-1537+946t$	.95	762	$y'=-376+0.884t$	(43)
Theology[44]	....	62.98	$y'=-74+68t$	.91	75	$y'=124+57t$	
Other[39]	....	280					
Men[45]							
Law[46]	....	75.46; 24,500	....	....	....	....	....

See footnotes at end of table.

Table A-2.–Methodology (graduates and degrees) (chapter III) – Cont.

	Text table number	Projection method					
			Trend				
		Constant	Least squares equation (y=percent; t=year; 1960-61=1)[1]	Index of determination	Standard error	Adjusted equation[2]	Other
Theology[42]	....	65.95; 5,880	$y'=4581+88t$	0.36	406	$y'=5362+47t$	(43)
Other[39]	....	1,770					

[1] Equation fitted by least squares technique unless otherwise noted.

[2] Adjusted by relocating curve through last observed point and 1986-87 point on fitted curve.

[3] Constant = 1973-74 to 1975-76 average percent that public high school graduates represented of the average of the 17- and 18-years-old population.

[4] Assumes approximately no change in number of nonpublic high school graduates through 1986-87.

[5] Constant = percent that boys represented of all nonpublic high school graduates in 1964-65.

[6] y'_t = bachelor's degrees in year t, u_t = upper-division enrollment in year t, t = 1976-77 and 1977-78. Constant = average percentage that 1976-77 and 1977-78 projected bachelor's degrees represent of the composite population.

[7] Projections of degrees by field of study are based primarily on the assumption that, for each field, degrees expressed as a percentage of degrees in all fields will follow past trends. However, when the projected percentages for each field are summed over all fields, the sum for each projected year does not usually add to 100 percent. Therefore, for each year, the projected percentages for individual fields that are obtained from the equations in this table are prorated so that they add to 100 percent.

[8] y = percent of all bachelor's degrees that are in this field (t = 1 in 1965-66).

[9] Constant = percent of all bachelor's degrees that were in this field in 1975-76.

[10] y = percent of all bachelor's degrees that are in this field.

[11] Straight line fit by double exponential smoothing = 0.60, mean obsolute deviation = 0.181 t = 0 in 1976.

[12] y = percent of all bachelor's degrees that are in this field (t = 1 in 1964-65).

[13] Projections of bachelor's degrees in engineering through 1979-80 are based on data from the Engineers Joint Council on Undergraduate Engineering Enrollment by year enrolled. Projections for 1980-81 through 1986-87 are based primarily on the assumption that bachelor's degrees in engineering expressed as a percentage of all bachelor's degrees will remain constant at the 1979-80 projected level through 1986-87.

[14] Projections through 1979-80 are based on projections from the American Institution of Certified Public Accountants. Projections from 1980-81 through 1986-87 are based primarily on the assumption that bachelor's degrees in accounting expressed as a percentage of all bachelor's degrees will remain constant at the 1979-80 projected level through 1986-87.

[15] y = percent of all bachelor's degrees that are in this field (t = 1 in 1966-67).

[16] y = percent of all bachelor's degrees that are in this field (t = 1 in 1970-71).

[17] Constant = 1975-76 percent that master's degrees represented of the composite population.

[18] y = percent of all master's degrees that are in this field (t = 1 in 1965-66).

[19] Constant = percent of all bachelor's degrees that were in this field in 1975-76.

[20] y = percent of all master's degrees that are in this field.

[21] Straight line fit by double exponential smoothing, = 0.40, mean obsolute deviation = 0.167, t = 0 in 1976.

[22] y = percent of all master's degrees that are in this field (t = 1 in 1966-67).

[23] y = percent of all master's degrees that are in this field (t = 1 in 1964-65).

[24] Constant = 1975-76 master's degrees expressed as a percentage of the composite population (low alternative). y = master's degrees expressed as a percentage of the composite population based on the 1960-61 to 1975-76 trend (high alternative).

[25] Projected master's degrees expressed as a percentage of the composite population = the average of the 1975-76 percentage and the 1960-61 to 1975-76 projected trend values (intermediate alternative).

[26] Straight line fit by double exponential smoothing = 0.40, mean absolute deviation = 0.247, t = 0 in 1976.

[27] Straight line fit by double exponential smoothing, = 0.40, mean absolute deviation = 0.100, t = 0 in 1976.

[28] Constant = 1975-76 doctor's degrees expressed as a percentage of the composite population (high alternative for men, low alternative for women). y = doctor's degrees expressed as a percentage of the composite population based on the 1960-61 to 1975-76 trend (low alternative for men, high alternative for women).

[29] Projected doctor's degrees expressed as a percentage of the composite population = the average of the 1975-76 percentage and the 1960-61 to 1975-76 projected trend values (intermediate alternative).

[30] y = percent of all doctor's degrees that are in this field.

[31] y = percent of all doctor's degrees that are in this field. (t = 1 in 1964-65.)

[32] Constant = percent of all doctor's degrees that were in this field in 1975-76.

[33] Straight line fit by double exponential smoothing = 0.50, mean absolute deviation = 0.336, t = 0 in 1976.

[34] y = percent of all doctor's degrees that are in this field (t = 1 in 1966-67).

[35] y = percent of all doctor's degrees that are in this field (t = 1 in 1965-66).

[36] Projections for 1976-77 to 1986-87 were obtained by summing the projected degrees of all the individual fields.

[37] Projections obtained from the Health Resources Administration, Bureau of Health Manpower.

[38] The number of degrees granted was projected by summing the separate projections for men and women.

[39] Constant = number of degrees awarded in this field in 1975-76.

[40] y' = percent of all degrees granted in this field that were granted to women. This equation was used for the 1980-81 through 1986-87 projections (1964-65 = 1).

[41] Projections of the percentage of all degrees granted in this field that are granted to women in 1976-77 through 1979-80 = the percentage that women comprise of first-year enrollment for advanced degrees in this field 4 years earlier.

[42] Constant = average of the 1973-74 through 1975-76 degrees in this field expressed as percentages of first-year enrollments for advanced degrees in this field 3 years earlier. This constant was used for the 1976-77 through 1978-79 projections. Second constant = projected numbers of degrees in this field in 1978-79. This constant was used as the low alternative projection for 1979-80 through 1986-87. y = number of degrees conferred in this field. This equation was used as the high alternative projection for 1979-80 through 1986-87.

[43] Intermediate alternative projection for 1979-80 through 1986-87 = the average of the high and low alternative projections.

[44] Constant = average of the 1973-74 through 1975-76 degrees in this field expressed as percentages of first-year enrollments for advanced degrees in this field 3 years earlier. This constant was used for the 1976-77 through 1978-79 projections. y = number of degrees conferred in this field. This equation was used for the 1979-80 through 1986-87 projections.

[45] See footnote 37 and 38.

[46] First constant = average of the 1973-74 through 1975-76 degrees in this field expressed as percentages of first-year enrollment for advanced degrees in this field 3 years earlier. This constant was used for the 1976-77 through 1978-79 projections. Second constant = number of degrees projected for 1978-79. This constant was used as the 1980-81 through 1986-87 projection.

Table A-3.–Methodology (instructional staff) (chapter IV)

	Text table number	Projection method					
		Constant	Trend				Other
			Least squares equation (y=percent; t=year; 1966=1)^{1}	Index of determination	Standard error	Adjusted equation^{2}	
Classroom teachers in regular day schools	17						
Public elementary	....	....	....	....	....	....	(3)
Public secondary	....	....	....	....	....	....	(3)
Nonpublic elementary	....	....	....	....	....	....	(3)
Nonpublic secondary	....	....	....	....	....	....	(3)
Pupil-teacher ratios in regular elementary and secondary day schools	18						
Nonpublic schools	....						
Elementary^{4}			y'= 22.80–0.33t	(5)	(5)		
Secondary^{6}	....	15.7					
Public schools	....						
Intermediate alternative	....						
Elementary	....	....	....	....	....	....	(7)
Secondary	....	....	....	....	....	....	(7)
Low alternative							
Elementary^{4}			y'=27.26–0.52t	0.96	0.37	y'=27.54–0.53t	
Secondary^{4}			y'=20.71–0.20t	.93	.19		
High alternative							
Elementary^{6}		21.7					
Secondary^{6}		18.5					
Demand for classroom teachers in public regular day schools	19						
For enrollment increase		....	....	....	....	....	(8)
For reduction of pupil-teacher ratio		....	....	....	....	....	(9)
For teacher turnover^{10}		6.0					
High alternative^{10}		8.0					
Low alternative^{10}		4.8					
Demand for classroom teachers in nonpublic regular day schools	20						
For enrollment increase	....	....	....	....	....	....	(8)
For reduction of pupil-teacher ratio	....	....	....	....	....	....	(9)
For teacher turnover^{10}	....	6.0					
Supply of new teacher graduates	21						
Intermediate alternative	....	....	....	....	....	....	(11)
Low alternative^{12}			y'=42.12–1.37t	.79	2.46	y'=35.96–1.08t	
High alternative^{13}		24.1					

Total demand for additional teachers	....	....	....	....	....	....	(14)
Full-time-equivalent instructional staff in institutions of higher education	23						
Public 4-year institutions[15]	....	12.36					
Private 4-year institutions[15]	....	11.83					
Public 2-year institutions[15]	....	22.49					
Private 2-year institutions[15]	....	17.93					
Full-time equivalent instructor or above	22,23						
Public 4-year institutions[16]		81.2					
Private 4-year institutions[16]		87.7					
Public 2-year institutions[16]		97.2					
Private 2-year institutions[16]		98.5					
Full-time instructor or above	22,23						
Public 4-year institutions[17]		92.2					
Private 4-year institutions[17]		85.1					
Public 2-year institutions[17]		76.0					
Private 2-year institutions[17]		73.1					
Part-time instructor or above	22						
Public 4-year institutions[18]		37.8					
Private 4-year institutions[18]		34.4					
Public 2-year institutions[18]		29.6					
Private 2-year institutions[18]		37.8					
Full-time junior instructional staff	22,23						
Public 4-year institutions[19]		28.2					
Private 4-year institutions[19]		46.2					
Public 2-year institutions[19]		72.4					
Private 2-year institutions[19]		80.6					
Part-time junior instructional staff	22						
Public 4-year institutions[20]		41.0					
Private 4-year institutions[20]		44.5					
Public 2-year institutions[20]		34.0					
Private 2-year institutions[20]		43.9					
Total demand for estimated full-time-equivalent instructional staff in institutions of higher education	24						
Demand for additional instructional staff:							
For increased enrollment and changes of student-staff ratio	....	....	....	....	....	....	(21)
For replacement							
Low alternative[22]	....	4.5					
Intermediate alternative[22]	....	4.5					
High alternative[22]	....	6.0					

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[1] Equation fitted by least squares technique unless otherwise noted.

[2] Adjusted by relocating curve through last observed point and 1986-87 point on fitted curve.

[3] Projected enrollment (table 4) divided by projected alternative pupil-teacher ratio (table 18) calculated separately for each type of school by control and level.

[4] y = ratio of number of pupils to number of teachers.

[5] Straight line fit by double exponential smoothing, $\alpha = 0.80$, mean absolute deviation = 0.59.

[6] Constant = 1976 pupil-teacher ratio.

[7] Projected pupil-teacher ratios = the average of the high and low alternative projected pupil-teacher ratios.

[8] Total teacher demand in a given year less total teacher demand in the previous year less the number of teachers needed for pupil-teacher ratio changes.

[9] The enrollment divided by the pupil-teacher ratio of a given year less the same enrollment divided by the pupil-teacher ratio of the previous year.

[10] Constant = percent of total teacher demand in each previous year.

[11] Projected percentage that new teacher graduates represent of total bachelor's degree recipients = the average of the high and low alternative projected percentage that new teacher graduates represent of total bachelor's degree recipients.

[12] y = percent that new teacher graduates represent of all bachelor's degree recipients.

[13] Constant = 1976 percent that new teacher graduates represented of all bachelor's degree recipients.

[14] The sum of the nonpublic demand in table 20 and the corresponding alternative public demand in table 19.

[15] Constant = 1976 ratio of full-time-equivalent enrollment to full-time-equivalent instructional staff.

[16] Constant = percent in 1976 that full-time-equivalent instructor or above represented of total full-time-equivalent instructional staff.

[17] Constant = percent in 1976 that full-time instructor or above represented of full-time-equivalent instructor or above.

[18] Constant = percent in 1976 that the full-time-equivalent of part-time instructor or above represented of part-time instructor or above.

[19] Constant = percent in 1976 that full-time junior instructional staff represented of full-time-equivalent junior instructional staff.

[20] Constant = percent in 1976 that the full-time-equivalent of part-time junior instructional staff represented of part-time junior instructional staff.

[21] Increase in total full-time equivalents employed over each previous year.

[22] Constant = percent of total full-time equivalents employed in previous year.

Table A-4.–Methodology (expenditures) (chapter V)

	Text table number	Projection method					
		Constant	Trend				
			Least squares equation (t=years, 1965-66=1)	Index of determination	Standard error	Adjusted equation	Other
Expenditures for education by elementary and secondary schools	26,27						
Current expenditures:							
Public	....	....	....	....	....	....	(1)
Nonpublic	....	....	....	....	....	....	(2)
Capital outlay:							
Public	....	....	....	....	....	....	(3)
Nonpublic	....	....	....	....	....	....	(4)
Interest:							
Public	....	....	....	....	....	....	(5)
Nonpublic	....	....	....	....	....	....	(6)
Expenditures for education by institutions of higher education	26,27, 34						
Current expenditures:							
Public	....	....	....	....	....	....	(7)
Nonpublic	....	....	....	....	....	....	(7)
Current expenditures of public school systems	28						
Capital outlay:							
Public	....	....	....	....	....	....	(8)
Nonpublic	....	....	....	....	....	....	(8)
Average daily attendance[9]		92					
Current expenditure allocated to pupil costs per pupil in average daily attendance			$y'=\$826+\$61(t)$	0.99	\$29	$y'=\$734+\$65(t)$	(10)
Current expenditures for all programs[11]	....	1.02					
Expenditures for salaries of classroom teachers in public elementary and secondary schools	29						
Average annual salary[12]	....	....	$y'=\$12,445+\$248(t)$	.87	\$514	$y'=\$11,502+\$291(t)$	
Total salary	....	....	....	....	....	....	(13)
Capital outlay (school year)	30	....	$y'=\$8,653-\$172(t)$	.70	\$827	$y'=\$8,546-\$167(t)$	(14)
Expenditures for interest by public elementary and secondary schools[15]	31	....	$y'=\$1,362+\$52(t)$	.93	\$97	$y'=\$1,114+\$62(t)$	(14)
Expenditures from current funds and total expenditures by institutions of higher education	26,27, 34	....	....	....	....	....	(16)

See footnotes at end of table.

Table A-4.–Methodology (expenditures) (chapter V) – Cont.

	Text table number	Projection method					
		Constant	Trend				
			Least squares equation (t=years, 1965-66=1)	Index of determination	Standard error	Adjusted equation	Other
Current funds: (per full-time-equivalent student)	32,33						
Student education:							
Public	....	$2,804	....	....	....	....	....
Nonpublic	....	$3,805					
Research:							
Public	....	$369					
Nonpublic	....	$638					
Public service:							
Public	....	$239					
Nonpublic	....	$199					
Auxiliary enterprises:							
Public	....	$471					
Nonpublic	....	$913					
Scholarships and fellowships:							
Public	....	$133					
Nonpublic	....	$449					
Hospitals and independent operations:							
Public	....	$345					
Nonpublic	....	$954					
Mandatory transfers:							
Public	....	$118					
Nonpublic	....	$176					
Capital outlay of institutions of higher education (millions of dollars)	34						
Public	....	$3,888	....	....	....	....	(17)
Nonpublic	....	$1,288	....	....	....	....	(17)

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[1] See method detailed for table 28.

[2] Ratio of nonpublic school teachers to public school teachers times public school current expenditures.

[3] See method detailed for table 30.

[4] Ratio of nonpublic school teachers to public school teachers times public school capital outlay.

[5] See method detailed for table 31.

[6] Ratio of nonpublic school teachers to public school teachers times public school interest.

[7] See method detailed for table 32.

[8] See method detailed for table 34.

[9] Constant percent assumes that the percent that average daily attendance in public schools represents of K-12 enrollment in public schools (92) will continue through 1986-87.

[10] y = current expenditure allocated to pupil costs per pupil in average daily attendance. Average daily attendance times cost per pupil for each year = total for all programs.

[11] Percent that expenditures for all programs represented of expenditures allocated to pupil costs in recent years. Constant percent times total current expenditures allocated to pupil costs = current expenditures for all programs.

[12] y = average annual salary of classroom teachers in public elementary and secondary schools.

[13] Average annual salary times number of classroom teachers in public elementary and secondary schools in each year.

[14] Equations in millions of dollars.

[15] y' = annual expenditures for interest in public elementary and secondary schools.

[16] Constants represent 1964-65 and 1965-66 average expenditure per full-time-equivalent student. Projection computed by multiplying constant by alternative projections of full-time-equivalent students (table 8).

[17] Held constant at 1975-76 level.

Table A-5.–Methodology (student charges) (chapter VI)

	Text table number	Projection method					
		Constant	Trend				Other
			Least squares equation (y=dollars; t=years; 1966-67=1)	Index of determination	Standard error	Adjusted equation	
Estimated average charges per full-time undergraduate resident degree-credit student in institutions of higher education (dollars)	35						
Tuition and required fees:[1]							
Public	....	....	$y'=\$486.78+\$6.05(t)$	0.57	19.48	$y'=\$479.79+\$6.38(t)$	
Universities	....	....	$y'=\$653.59+\$6.20(t)$	.16	52.64	$y'=\$590.91+\$9.19(t)$	
Other 4-year institutions	....	....	$y'=\$456.52+\$11.27(t)$	.46	45.64	$y'=\$434.49+\$12.32(t)$	
2-year institutions	....	....	$y'=\$209.12+\$15.67(t)$	.92	16.79	$y'=\$210.12+\$15.62(t)$	
Nonpublic	....	....	$y'=\$2{,}240.49+\$30.88(t)$	.51	112.99	$y'=\$2{,}206.66+\$32.49(t)$	
Universities	....	....	$y'=\$2{,}612.44+\$44.43(t)$	.67	115.59	$y'=\$2{,}691.96+\$40.64(t)$	
Other 4-year institutions	....	....	$y'=\$2{,}154.88+\$26.09(t)$	.37	126.16	$y'=\$2{,}027.04+\$32.18(t)$	
2-year institutions	....	....	$y'=\$1{,}558.87+\$5.42(t)$	.08	67.65	$y'=\$1{,}562.06+\$5.27(t)$	
Board:[2]							
Public	....	$736					
Universities	....	$765					
Other 4-year institutions	....	$704					
2-year institutions	....	$748					
Nonpublic	....	$813					
Universities	....	$888					
Other 4-year institutions	....	$777					
2-year institutions	....	$770					
Room:[2]							
Public	....	$588					
Universities	....	$616					
Other 4-year institutions	....	$580					
2-year institutions	....	$473					
Nonpublic	....	$681					
Universities	....	$822					
Other 4-year institutions	....	$617					
2-year institutions	....	$614					

[1] High alternative projection method. Low alternative held constant at 1976-77 level. Intermediate alternative represents average of high and low alternatives.

[2] Charges held constant at 1976-77 for all alternatives.

Estimation Methods

GENERAL STATEMENT

The basic data for projecting the educational components listed below were wholly or partially estimated for the years indicated. (A few items which were estimated and explained in the tables are not shown here.)

Unless otherwise specified, all educational components were estimated separately by type and control of institution and by sex and attendance status of student:

1. Degrees, bachelor's and master's—total, library science, social work—1960-61 to 1964-65 (tables 11-14, 16)
2. Full-time-equivalent enrollment, 1965-1971 (table 8)
3. Enrollment, total and graduate (tables 5-7, 9)
   a. Graduate (resident), 1963
   b. Graduate (resident), 1964 to 1966
   c. Undergraduate, 1963 to 1966
   d. Degree-credit, 1966
   e. Non-degree-credit, 1966
   f. Degree-credit, 1967
   g. Non-degree-credit, 1967
   h. Graduate (resident), 1967
   i. Total graduate, by sex, 1963-1967
   j. Undergraduate and first-professional, 1967
   k. Graduate, by sex and attendance status, 1968
   l. Total graduate, by control and attendance status, 1963-1968
   m. Undergraduate and first-professional, 1968
   n. Total non-degree-credit, by attendance status, 1963-1967
4. Public elementary teachers and public secondary teachers, separately, 1971-1976 (tables 17-20)
5. Instructional staff in institutions of higher education (tables 22-24)
   a. Full-time-equivalent instructional staff, 1969, 1971, and 1973-1975
   b. Full-time and part-time instructional staff, 1969, 1971, and 1973-1975

(For definitions of resident, extension, degree-credit and non-degree-credit enrollment courses used in this section, see the glossary.)

1. DEGREES, BACHELOR'S AND MASTER'S—TOTAL, LIBRARY SCIENCE AND SOCIAL WORK—1960-61 THROUGH 1964-65 (Tables 11-15, 16)

For 1960-61 through 1964-65, master's degrees in library science and social work were reported as first-professional degrees. The numbers of these degrees have been subtracted from totals of first-professional degrees and added to totals of master's degrees.

2. FULL-TIME-EQUIVALENT ENROLLMENT, UNREPORTED, 1965-1971 (Table 8)

The percentage that the full-time equivalent represented of part-time enrollment was interpolated separately for each type and control of institution and for degree-credit and non-degree credit separately between 1964 and 1972. The percentages for 1964 (33 percent for degree-credit and 28 percent for non-degree-credit) were obtained from the fall 1964 sample survey of full-time-equivalent enrollment and credit hours (unpublished). The percentages for 1972 were obtained from *Fall Enrollment in Higher Education, 1972.*[1]

3. ENROLLMENT, TOTAL AND GRADUATE (Tables 5-7, 9)

3a. Resident Graduate, Unreported, 1963

To estimate resident graduate opening fall enrollment for 1963 in each control-of-institution and sex category, linear equations were fitted to the percentages that resident graduate enrollment represented of resident and extension degree-credit enrollment calculated from the comprehensive enrollment surveys in 1957, 1959, 1961, and 1963. These estimated percentages were applied to resident and extension degree-credit opening fall enrollment in 1963.

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[1] George H. Wade, U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Fall Enrollment in Higher Education, 1972* (Washington, D.C., U.S. Government Printing Office, 1974).

To estimate resident graduate opening fall enrollment by attendance status for 1963 in each control-of-institution and sex category, use was made of the following attendance status data from a series of U.S. Office of Education comprehensive enrollment surveys: resident graduate enrollment, 1959 and 1961; undergraduate and first-professional enrollment, 1957, 1959, and 1961; and undergraduate enrollment, 1963; enrollment for advanced degrees (not by sex), 1960 to 1963; opening fall enrollment and total degree-credit resident and extension enrollment, 1962 and 1963. By balancing all of this information and by using interpolations and extrapolations, full-time resident graduate enrollment as a percentage of total graduate enrollment was estimated for 1963 by control and sex categories. These percentages were applied to estimated graduate enrollment in 1963 in each control of institution and sex of student category.

3b. Resident Graduate, Unreported, 1964 to 1966

To estimate resident graduate opening fall enrollment from 1964 to 1966 in each control-of-institution and sex category, interpolations were made between the percentages that resident graduate enrollment represented of resident and extension degree-credit enrollment in 4-year institutions in 1963 and 1967. These interpolated percentages were applied to resident and extension degree-credit enrollment in 1964, 1965, and 1966.

To estimate resident graduate opening fall enrollment by attendance status from 1964 to 1966 in each control of institution and sex category, interpolations were made between the percentages that full-time resident graduate enrollment were of total resident graduate enrollment in 1963 and 1967. These percentages were applied to estimated resident graduate enrollment for 1964, 1965, and 1966, in each control-of-institution and sex of student category.

3c. Undergraduate, Unreported, 1963 to 1966

To estimate resident and extension undergraduate and first-professional opening fall enrollment in 4-year institutions, 1963 to 1966, the estimate of resident graduate enrollment was subtracted from degree-credit resident and extension enrollment in each year in each control-of-institution and sex and attendance-status-of-student category. (In 2-year institutions, undergraduate degree-credit enrollment is the same as total degree-credit enrollment.)

3d. Degree-Credit, Unreported, 1966

To estimate resident and extension total opening fall enrollment by degree-credit status and attendance status in 1966, percentages of resident and extension total enrollment by degree-credit status in each attendance-status category calculated from the unpublished 1966 comprehensive survey of enrollment (not available by sex) were applied to reported 1966 total enrollment by attendance-status categories.

To estimate full-time degree-credit and part-time degree-credit opening fall enrollment by sex in 1966, percentages of full-time degree-credit enrollment by sex and of part-time degree-credit enrollment by sex calculated from the 1965 opening fall enrollment survey (non-degree-credit enrollment was not reported by attendance status in 1965) were applied to estimated degree-credit attendance-status categories.

3e. Non-Degree-Credit, Unreported, 1966

The estimation of non-degree-credit enrollment by attendance status in 1966 was a byproduct of the estimation of degree-credit-enrollment by attendance status in 1966.

To estimate non-degree-credit total opening fall enrollment by attendance-status and sex in 1966, estimated degree-credit categories by attendance and sex were subtracted from reported total degree-credit and non-degree-credit categories by attendance status and sex. These differences were adjusted to agree with the estimated non-degree categories by attendance status which were a byproduct of the estimation of degree-credit enrollment by attendance status.

3f. Degree-Credit, Unreported, 1967

To estimate resident and extension total opening fall enrollment by degree-credit status in 1967:

(1) Percentages of resident and extension total enrollment by degree-credit status in each sex category (not available by attendance status), calculated from the unpublished 1967 comprehensive survey of enrollment, were applied to reported 1967 total enrollment by sex categories.

(2) Similar percentages by degree-credit status in each attendance-status category (not available by sex), calculated from the 1967 comprehensive enrollment survey, were applied to reported 1967 resident and extension total enrollment by attendance-status categories.

(3) Probability estimates were applied to the two sets of estimates (one by sex, one by attendance status) to obtain estimates of resident and extension total enrollment by degree-credit status in each sex and attendance-status category.

3g. Non-Degree-Credit, Unreported, 1967

The estimation of resident and extension non-degree-credit enrollment by sex and attendance status in 1967 was a byproduct of the estimation of resident and extension degree-credit enrollment by attendance status and sex in 1967.

3h. Resident Graduate, Unreported, 1967

To estimate resident graduate opening fall enrollment by sex and attendance status in 1967:

(1) Percentages of resident postbaccalaureate enrollment by resident graduate and first-professional enrollment status in each sex category, calculated from the unpublished 1967 comprehensive survey of enrollment, were applied to reported 1967 resident postbaccalaureate enrollment in corresponding sex categories.

(2) Similar percentages for attendance-status categories, calculated from the 1967 comprehensive survey of enrollment (this survey reported categories by sex and attendance status independently), were applied to reported 1967 resident postbaccalaureate enrollment in corresponding attendance-status categories.

(3) Probability estimates were applied to the two sets of estimates (one by sex, one by attendance status) to obtain estimates of resident graduate and resident first-professional enrollment by sex and attendance status.

3i. Total Graduate by Sex, Unreported, 1963-1967

To estimate total graduate opening fall enrollment for each sex in 1963-1967, the average of the percentages that resident graduate enrollment represented of total graduate enrollment in 1968-1972 was applied to the estimates of resident graduate enrollment for 1963-1967.

3j. Undergraduate and First-Professional, Unreported, 1967

To estimate resident and extension degree-credit undergraduate and first-professional opening fall enrollment in 1967 (a revision because the 1967 comprehensive survey of enrollment was not available until 1970), estimated 1967 resident graduate enrollment was subtracted from the total of estimated 1967 resident and extension degree-credit enrollment in 4-year institutions in each sex and attendance-status category.

3k. Graduate Enrollment by Sex and Attendance Status, Unreported, 1978

To estimate graduate opening fall enrollment for each sex in 1968, the percentage that graduate enrollment represented of postbaccalaureate (graduate and first-professional) enrollment was assumed to be the same as the 1969 percentage. This percentage was applied to the 1968 postbaccalaureate enrollment to estimate 1968 graduate enrollment.

3l. Total Graduate by Control and Attendance Status, Unreported, 1963-1968

To estimate total graduate opening fall enrollment by control and attendance status in 1963-1968:

(1) The percentage that resident graduate enrollment represented of total graduate enrollment in private institutions was held constant at the 1969 level and applied to estimates of private resident graduate enrollment for 1963-1968. Total public graduate enrollment for each year, 1963-1968, was estimated as the difference between total graduate enrollment and total private graduate enrollment.

(2) Full-time graduate enrollment was assumed to be the same as full-time resident graduate enrollment in 1963-1967. Part-time graduate enrollment was estimated as the difference between total graduate enrollment and full-time graduate enrollment for each year, 1963-1967.

(3) To estimate graduate opening fall enrollment by attendance status in 1968, it was assumed that the number of part-time first-professional students in 1968 was the same small number as in 1969. This number was then subtracted from total part-time postbaccalaureate enrollment to estimate graduate part-time enrollment. Graduate full-time enrollment was estimated as the difference between total graduate enrollment and part-time graduate enrollment.

3m. Undergraduate and First-Professional, Unreported, 1968

To estimate degree-credit undergraduate and first-professional opening fall enrollment in 1968 (revision because the 1967 comprehensive survey of enrollment was not available until 1970), estimated 1968 graduate enrollment was subtracted from the total of reported 1968 degree-credit enrollment in each sex and attendance-status category.

3n. Total Non-Degree-Credit, by Attendance Status, Unreported, 1963-67

Non-degree-credit enrollment by attendance status was not reported in the opening fall enrollment surveys prior to 1968. In 1964, the sample survey of full-time-equivalent enrollment and credit hours reported that 40 percent of total non-degree-credit enrollment was full time (not available by type and control of institution).

To estimate the full-time percentages for 1963 and 1964, the full-time percentages by type and control of institution from the 1968 opening fall enrollment survey were prorated down to equal about 40 percent for the total. For the years 1965 to 1967, the percentages between 1964 and the actual 1968 percentages, for each type and control of institution, were interpolated.

4. PUBLIC ELEMENTARY AND SECONDARY TEACHERS, SEPARATELY, UNREPORTED, 1971-1976 (Tables 17-20)

For teachers in public elementary and secondary schools in each year, both the number of elementary teachers and the number of secondary teachers reported by the National Education Association were prorated to the total number of teachers reported by NCES.

5. INSTRUCTIONAL STAFF IN INSTITUTIONS OF HIGHER EDUCATION (Tables 22-24)

5a. Full-Time-Equivalent Instructional Staff, Unreported in 1969, 1971, and 1973-1975

For each type and control of institution the ratio of full-time-equivalent enrollment to total full-time-equivalent faculty (instructor or above and junior instructional staff) for the years 1968, 1970, 1972, and 1976 was determined. This ratio was then interpolated for 1969, 1971, and 1973-1975. By dividing full-time-equivalent enrollment for 1969, 1971, and 1973-1975 by these interpolated ratios, estimates of full-time-equivalent instructional staff were obtained.

The ratio of full-time-equivalent instructor or above to total full-time-equivalent faculty was determined for 1968, 1970, 1972, and 1976. Ratios were obtained for 1969, 1971, and 1973-1975 by interpolation. These interpolated ratios were applied to the total full-time-equivalent faculty figures to obtain estimates of full-time-equivalent instructor or above and junior instructional staff.

5b. Full-Time and Part-Time Instructional Staff, Unreported in 1969, 1971, and 1973-1975

The following procedure was followed for instructor or above and junior instructional staff separately and for each type of control category of institution of higher education:

(1) The ratio of full-time instructional staff to full-time-equivalent instructional staff was calculated for 1968, 1970, 1972, and 1976 and interpolated for 1969, 1971, and 1973-1975. These ratios were then applied to the full-time-equivalent figures for 1969, 1971, and 1973-1975 yielding estimates for full-time instructional staff.

(2) By subtracting this full-time figure from the full-time-equivalent figure, an estimated full-time equivalent of part-time figure was obtained.

(3) The ratios of full-time equivalent of part-time instructional staff to part-time instructional staff was then calculated for 1968, 1970, 1972, and 1976 and interpolated for 1969, 1971, and 1973-1975.

(4) These ratios (calculated in 3 above) were then divided into the full-time equivalent of part-time instructional staff figures for 1969, 1971, and 1973-1976. The quotient was assumed to be the part-time figure for instructional staff in that year.

Classification of Degrees by Field of Study

[Individual fields listed in *Taxonomy of Instructional Programs in Higher Education*[1]]

I. Social Sciences

- Social Sciences
  - Social sciences, general
  - Anthropology
  - Archaeology
  - Economics
  - History
  - Geography
  - Political science and government
  - Sociology
  - Criminology
  - International relations
  - Afro-American (black culture) studies
  - American Indian cultural studies
  - Mexican-American cultural studies
  - Urban studies
  - Demography
  - Area studies
  - Other
- Psychology
  - Psychology, general
  - Experimental psychology (animal and human
  - Clinical psychology
  - Psychology for counseling
  - Social psychology
  - Psychometrics
  - Statistics in psychology
  - Industrial psychology
  - Developmental psychology
  - Physiological psychology
  - Other
- Public Affairs and Services
  - Community services, general
  - Public administration
  - Parks and recreation management
  - Social work and helping services (other than clinical social work)
  - Law enforcement and corrections (baccalaureate and higher programs)
  - International public service (other than diplomatic service)
  - Other
- Library Science
  - Library science, general
  - Other

II. Humanities

- Architecture and Environmental Design
  - Environmental design, general
  - Architecture
  - Interior design
  - Landscape architecture
  - Urban architecture
  - City, community, and regional planning
  - Other
- Fine and Applied Arts
  - Fine arts, general
  - Art (painting, drawing, sculpture)
  - Art history and appreciation
  - Music (performing, composition, theory)
  - Music (liberal arts program)
  - Music history and appreciation (musicology)
  - Dramatic arts
  - Dance
  - Applied design (ceramics, weaving, textile design, fashion design, jewelry, metalsmithing, interior decoration, commercial art)
  - Cinematography
  - Photography
  - Other
- Foreign Languages
  - Foreign languages, general (concentration on more than one foreign language without major emphasis on one)
  - French
  - German

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[1] Robert A. Huff and Marjorie O. Chandler, U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *A Taxonomy of Instructional Programs in Higher Education* (Washington, D.C., U.S. Government Printing Office, 1970).

  - Italian
  - Spanish
  - Russian
  - Chinese
  - Japanese
  - Latin
  - Greek, classical
  - Hebrew
  - Arabic
  - Indian (Asiatic)
  - Scandinavian languages
  - Slavic languages (other than Russian)
  - African languages (non-Semitic)
  - Other
- Communications
  - Communications, general
  - Journalism (printed media)
  - Radio/television
  - Advertising
  - Communications media (use of videotape, films, etc., oriented specifically toward radio/television)
  - Other
- Letters
  - English, general
  - Literature, English
  - Comparative literature
  - Classics
  - Linguistics (includes phonetics, semantics, and philology)
  - Speech, debate, and forensic science (rhetoric and public address)
  - Creative writing
  - Teaching of English as a foreign language
  - Philosophy
  - Religious studies (excludes theological professions)
  - Other

III. Natural Sciences and Miscellaneous Fields

- Mathematics and Statistics
  - Mathematics, general
  - Statistics, mathematical and theoretical
  - Applied mathematics
  - Other
- Computer and Information Sciences
  - Computer and information sciences, general
  - Information sciences and systems
  - Data processing
  - Computer programming
  - Systems analysis
  - Other
- Engineering
  - Engineering, general
  - Aerospace, aeronautical, and astronautical engineering
  - Agricultural engineering
  - Architectural engineering
  - Bioengineering and biomedical engineering
  - Chemical engineering (includes petroleum refining)
  - Petroleum engineering (excludes petroleum refining)
  - Civil, construction, and transportation engineering
  - Electrical, electronics, and communications engineering
  - Mechanical engineering
  - Geological engineering
  - Geophysical engineering
  - Industrial and management engineering
  - Metallurgical engineering
  - Materials engineering
  - Ceramic engineering
  - Textile engineering
  - Mining and mineral engineering
  - Engineering physics
  - Nuclear engineering
  - Engineering mechanics
  - Environmental and sanitary engineering
  - Naval architecture and marine engineering
  - Ocean engineering
  - Engineering technologies (baccalaureate and higher programs)
  - Other
- Physical Sciences
  - Physical sciences, general
  - Physics, general (excludes biophysics)
  - Molecular physics
  - Nuclear physics
  - Chemistry, general (excludes biochemistry)
  - Inorganic chemistry
  - Organic chemistry
  - Physical chemistry
  - Analytical chemistry
  - Pharmaceutical chemistry
  - Astronomy
  - Astrophysics
  - Atmospheric sciences and meteorology
  - Geology
  - Geochemistry
  - Geophysics and seismology
  - Earth sciences, general
  - Paleontology
  - Oceanography

- Metallurgy
- Other

Biological Sciences
- Biology, general
- Botany, general
- Bacteriology
- Plant pathology
- Plant pharmacology
- Plant physiology
- Zoology, general
- Pathology, human and animal
- Premedical, predental, and preveterinary science
- Pharmacology, human and animal
- Physiology, human and animal
- Microbiology
- Anatomy
- Histology
- Biochemistry
- Biophysics
- Molecular biology
- Cell biology (cytology, cell physiology)
- Marine biology
- Biometrics and biostatistics
- Ecology
- Entomology
- Genetics
- Radiobiology
- Nutrition, scientific (excludes nutrition in home economics and dietetics)
- Neurosciences
- Toxicology
- Embryology
- Other

Agriculture and Natural Resources
- Agriculture, general
- Agronomy (field crops and crop management)
- Soils science (management and conservation)
- Animal science (husbandry)
- Dairy science (husbandry)
- Poultry science
- Fish, game, and wildlife management
- Horticulture (fruit and vegetable production)
- Ornamental horticulture (floriculture, nursery science)
- Agricultural and farm management
- Agricultural economics
- Agricultural business
- Food science and technology
- Forestry
- Natural resources management
- Agriculture and forestry technologies (baccalaureate and higher programs)
- Range management
- Other

Health Professions
- Health professions, general
- Hospital and health care administration
- Nursing (baccalaureate and higher programs)
- Dentistry (D.D.S. or D.M.D. degree)
- Dental specialties (work beyond first-professional degree, D.D.S. or D.M.D.)
- Medicine (M.D. degree)
- Medical specialties (work beyond first-professional degree, M.D.)
- Occupational therapy
- Optometry
- Osteopathic medicine (D.O. degree)
- Pharmacy
- Physical therapy
- Dental hygiene (baccalaureate and higher programs)
- Public health
- Medical record librarianship
- Podiatry (Pod.D. or D.P.) or podiatric medicine (D.P.M.)
- Biomedical communication
- Veterinary medicine (D.V.M. degree)
- Veterinary medicine specialties (work beyond first-professional degree, D.V.M.)
- Speech pathology and audiology
- Chiropractic
- Clinical social work (medical and psychiatric and specialized rehabilitation services)
- Medical laboratory technologies (baccalaureate and higher programs)
- Dental technologies (baccalaureate and higher programs)
- Radiologic technologies (baccalaureate and higher programs)
- Other

Accounting

Business and Management (excluding accounting)
- Business and commerce, general
- Business statistics
- Banking and finance
- Investments and securities
- Business management and administration
- Operations research
- Hotel and restaurant management
- Marketing and purchasing
- Transportation and public utilities
- Real estate

- Insurance
- International business
- Secretarial studies (baccalaureate and higher programs)
- Personnel management
- Labor and industrial relations
- Business economics
- Other

Education
- Education, general
- Elementary education, general
- Secondary education, general
- Junior high school education
- Higher education, general
- Junior and community college education
- Adult and continuing education
- Special education, general
- Administration of special education
- Education of the mentally retarded
- Education of the gifted
- Education of the deaf
- Education of the culturally disadvantaged
- Education of the visually handicapped
- Speech correction
- Education of the emotionally disturbed
- Remedial education
- Special learning disabilities
- Education of the physically handicapped
- Education of the multiply handicapped
- Social foundations (history and philosophy of education)
- Educational psychology (includes learning theory)
- Pre-elementary education (kindergarten)
- Educational statistics and research
- Education testing, evaluation, and measurement
- Student personnel (counseling and guidance)
- Educational administration
- Educational supervision
- Curriculum and instruction
- Reading education (methodology and theory)
- Art education (methodology and theory)
- Music education (methodology and theory)
- Mathematics education (methodology and theory)
- Science education (methodology and theory)
- Physical education
- Driver and safety education
- Health education (includes family life education)
- Business, commerce, and distributive education
- Industrial arts, vocational and technical education
- Agricultural education
- Home economics education
- Other

Other
- Home economics
  - Home economics, general
  - Home decoration and home equipment
  - Clothing and textiles
  - Consumer economics and home management
  - Family relations and child development
  - Foods and nutrition (includes dietetics)
  - Institutional management and cafeteria management
  - Other
- Law
  - Law, general
  - Other
- Military sciences
  - Military science (Army)
  - Naval science (Navy, Marines)
  - Aerospace science (Air Force)
  - Other
- Theology
  - Theological professions, general
  - Religious music
  - Biblical languages
  - Religious education
  - Other
- Interdisciplinary studies
  - General liberal arts and sciences
  - Biological and physical sciences
  - Humanities and social sciences
  - Engineering and other disciplines
  - Other

Changes in Degree-Level Definitions

Prior to 1960-61	1960-61 through 1964-65	1965-66
	BACHELOR'S DEGREES	
Number of years of work not specified. First-professional degrees included.	Number of years of work specified as less than 5. First-professional degrees excluded.	Number of years of work specified as less than 6. First-professional degrees excluded.
	FIRST-PROFESSIONAL DEGREES	
Included with bachelor's degrees.	Number of years of work specified as 5 or more. Includes master's degrees in such fields as degrees in business administration, hospital administration, law, library science, social work, and theology.	Number of years of work specified as 6 or more. Excludes all master's degrees.
	MASTER'S DEGREES	
	Includes all master's degrees except some considered first-professional. Includes second-professional degrees below level of doctorate.	Includes all master's degrees, including those considered first-professional prior to 1965-66. No change.
	DOCTOR'S DEGREES	
Includes Ph.D.'s in any field and such degrees as doctor of education, doctor of juridical science, and doctor of public health (preceded by professional degree in medicine or sanitary engineering).	No change.	No change.

Glossary

COURSES

Adult Education Courses

Group instruction in courses which are designed for, or attended principally by, persons who have terminated their formal education.

Degree-Credit Courses

Courses which carry credit toward a bachelor's or higher degree.

Individual Lessons

Instruction provided on a one-instructor/one-student basis in music, art, speech, etc.

Non-Degree-Credit Courses

Courses extending not more than 3 years beyond high school and designed to prepare students for immediate employment in an occupation or cluster of occupations at the technical and/or semiprofessional level or at the craftsman-clerical level.

Short Courses

Courses that carry no credit toward a degree because of less-than-prescribed length.

DEGREES

Bachelor's or First-Level Degree

Lowest degree conferred by college, university, or professional school, requiring 4 or more years of academic work. For changes in National Center for Education Statistics classification, see "Changes in Degree-Level Definitions" (appendix A).

Doctor's Degree (except first-professional)

Highest academic degree conferred by a university, including Ph.D. in any field, doctor of education, doctor of juridical science, and doctor of public health (preceded by professional degree in medicine or sanitary engineering).

First-Professional Degree

An academic degree which requires at least 2 academic years of previous college work for entrance and at least 6 academic years of college work for completion. Beginning in 1965-66, National Center for Education Statistics classification includes the following degrees only: Law (LL.B. or J.D.); dentistry (D.D.S. or D.M.D.); medicine (M.D.); veterinary medicine (D.V.M.); chiropody or podiatry (D.S.C. or D.P.); optometry (O.D.); osteopathy (D.O.); and theology (B.D.). For changes in National Center for Education Statistics classification, *see* "Changes in Degree-Level Definitions" (appendix A).

Master's or Second-Level Degree

An academic degree higher than a bachelor's but lower than a doctor's. All degrees classified as first-professional are excluded.

EXPENDITURES, ELEMENTARY AND SECONDARY

Current Expenditures, Regular Elementary and Secondary Day Schools

Current expenditures for administration, instruction, plant operation and maintenance, fixed charges (retirement, social security, insurance, etc.), and other school services (pupil transportation, food services, health services, attendance services, and miscellaneous school services).

Current Expenditures, Total

Current expenditures for regular elementary and secondary day school programs and current expenditures for other school programs including summer schools, adult education, community colleges, and community services.

Expenditures, Total

Total current expenditures for all programs, capital outlay, and interest on school debt.

EXPENDITURES, GENERAL

Capital Outlay

Expenditures for land or existing buildings, improvement of grounds, construction of buildings, additions to buildings, and initial or additional equipment. Includes replacement and rehabilitation and installment or lease payments (excluding interest) which have a terminal date and result in the acquisition of property.

Constant Dollars (1976-77)

Expenditure data which have been adjusted by means of price and cost indexes to equal the purchasing power of 1976-77 dollars. This eliminates inflationary factors and allows direct comparison between years.

Current Dollars

Expenditure data which have not been adjusted to compensate for inflation. (Projections of unadjusted expenditure are not included in this report.)

Current Expenditures

Any expenditures except for capital outlay and debt service. If accounts are kept on the accrual basis, current expense includes total charges incurred, whether paid or unpaid. If accounts are kept on the cash basis, it includes only actual disbursements.

Debt Service

Payment for retirement of debt and for use of long-term loans (not repaid in the year in which made).

Interest

Any payment for use of money.

EXPENDITURES, HIGHER EDUCATION

Current Expenditures, Total

Total expenditures from current funds less expenditures from current funds which are used for capital outlay (about 16 percent of total capital outlay is expended from current funds).

Current Fund Expenditures, Total

Expenditures for auxiliary enterprises, organized research and related activities, student aid, and student education (approximately 16 percent of total capital outlay by institutions of higher education is expended directly from current funds).

Auxiliary Enterprises

Expenditures for services to students, faculty, or other staff for which a fee is charged that is directly related to, but not necessarily equal to, the cost of service (e.g., dormitories, food service, student stores).

Organized Research

Expenditures for all sponsored research and all separately budgeted research. Excludes expenditures for research carried on as part of regular instructional services (departmental research) which are included with expenditures for student education.

Related Activities

Expenditures for activities which exist to provide instructional or laboratory experience for students and which incidentally create goods or services that may be sold on the campus or to the general public. Expenditures are incurred in addition to those necessary solely for the educational benefit of the students. Expenditures from current funds which cannot be reported under "student education" or "organized research" are included.

Student Aid

Expenditures for assistance to students through scholarships, fellowships, and prizes. Recipients are not required to repay, either through services or monies.

Student Education

Expenditures for those components of educational and general expenditures which are most closely related to instruction. Includes instruction and research which are part of regular instructional services (departmental research), extension and public service, libraries, physical plant operation and maintenance, general administration, and sponsored activities.

Expenditures, Total

Expenditures for capital outlay, debt service including interest, and total current expenditures.

Student Charges

Charges for tuition, required fees, room, and board. Required fees are those for matriculation, laboratory, library, health, etc. They do not include books. Student charges as reported under this heading are based on full-time, resident (in-State or in-district) students.

INSTRUCTIONAL STAFF

Instructor or Above

A faculty member with the title of professor, associate professor, assistant professor, instructor, lecturer, visiting professor, adjunct professor, or interim professor (or its equivalent).

Junior Instructor

A professional assistant to an instructor or above. Junior staff members are usually graduate students with titles such as graduate assistant or teaching fellow.

Full-Time-Equivalent Instructional Staff

All full-time instructional staff plus part-time instructional staff converted to its equivalent number of full-time instructional staff.

SCHOOLS

Elementary Schools

Schools with teaching primarily organized by grades, composed of a span of grades not above grade eight.

Independent Nursery and Kindergarten Schools

Schools that offer nursery and/or kindergarten instruction only.

Other Schools

Residential schools for exceptional children (public and nonpublic), Federal schools for Indians, federally operated schools on Federal installations, and subcollegiate departments of public and private institutions of higher education.

Regular Schools

Schools for normal children that satisfy the requirements of the State education laws and offer at least one grade beyond kindergarten.

Residential Schools for Exceptional Children

Schools outside the regular public and private school systems, including public and private residential schools for the deaf, blind, mentally deficient, epileptic, and delinquent.

Secondary Schools

Schools with teaching organized by subject matter taught, composed of junior high and high schools.

Special Schools

Schools, such as trade schools or business colleges, outside the regular school system.

STUDENTS

Advanced-Degree Students

Students who have attained at least one standard degree and have been accepted as candidates for master's or doctor's degrees.

Extension Students

Students who most commonly take instruction away from a main campus, and students receiving on-campus instruction offered by an extension division.

First-Professional Students

See "first-professional degrees."

First-Time Students

Freshmen not previously enrolled in any institutions of higher education.

Full-Time Students

Students enrolled in courses with credits equal to at least 75 percent of the normal full-time semester course load.

Full-Time-Equivalent Students

All full-time students plus part-time students converted to their equivalent number of full-time students.

Graduate Students

Students who have attained at least one standard degree and are or might be candidates for a master's or doctor's degree.

Occupational Students

See "non-degree-credit courses."

Postbaccalaureate Students

Students who have attained at least one standard degree and are or might be candidates for a first-professional, master's, or doctor's degree.

Resident Students (Enrollment)

Students who attend classes on a main campus or a branch campus. Students' living quarters (whether on- or off-campus) and their legal domicile (whether in-State or out-of-State) are irrelevant.

Resident Students (Student Charges)

Students with legal domicile in-State or in-district.

Unclassified Students

Students who are not candidates for a degree, diploma, certificate, or equivalent award, even though they may be taking courses in regular classes with other students.

Undergraduate Students

Degree-credit or non-degree-credit students who have not received formal recognition as having completed the prescribed degree-credit or non-degree-credit requirements of an accredited institution of higher education.

APPENDIX B

Statistical Tables

Figure B-1.–School-age population, with alternative projections: United States, October 1956 to 1986

(Data from tables B-1 and B-2)

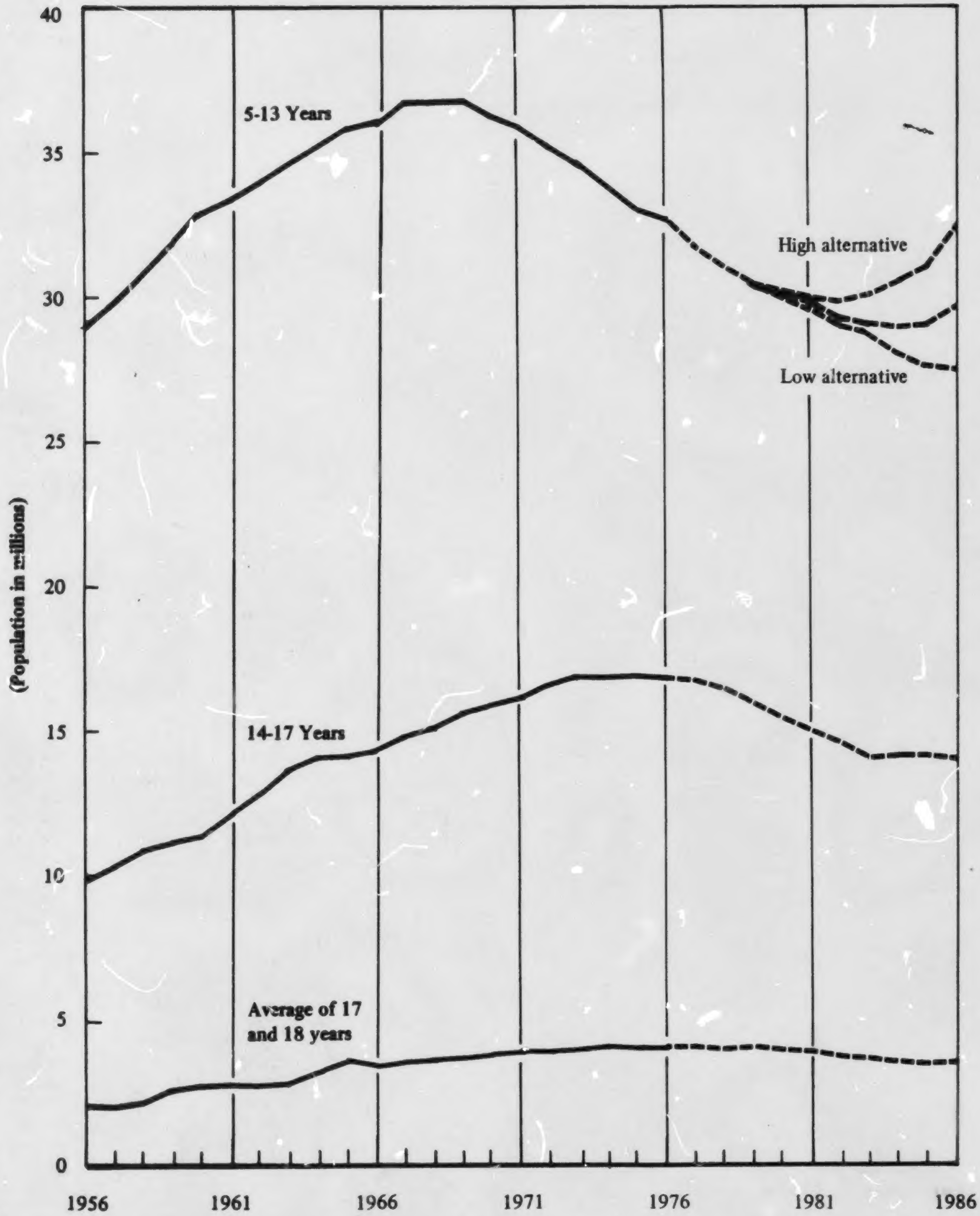

Table B-1.–School-age population (U.S. Census projection series I, II, and III) ages 5, 6, 5-13, and 14-17 years: United States, 1954 to 1987

[Ages as of October 1. Populations in thousands]

Year (fall) (1)	Age 5[1] (2)	Age 6[1] (3)	Ages 5-13[1] (4)	Ages 14-17[2] (5)
1954	3,453	3,443	27,147	9,032
1955	3,484	3,451	28,177	9,340
1956	3,611	3,480	29,115	9,788
1957	3,704	3,604	29,916	10,423
1958	3,802	3,694	30,932	10,867
1959	3,897	3,789	32,074	11,135
1960	3,966	3,879	33,040	11,410
1961	4,030	3,944	33,391	12,215
1962	4,135	4,013	34,069	12,934
1963	4,131	4,120	34,746	13,681
1964	4,108	4,118	35,373	14,229
1965	4,108	4,098	35,877	14,201
1966	4,143	4,106	36,358	14,473
1967	4,055	4,142	36,661	14,829
1968	3,980	4,058	36,799	15,255
1969	3,882	3,986	36,772	15,630
1970	3,703	3,896	36,483	15,992
1971	3,521	3,718	35,925	16,341
1972	3,428	3,535	35,259	16,595
1973	3,377	3,441	34,555	16,770
1974	3,430	3,389	33,892	16,883
1975	3,512	3,444	33,297	16,913
1976	3,494	3,526	32,756	16,862
		Series II projections		
1977	3,219	3,508	31,995	16,745
1978	3,065	3,234	31,174	16,544
1979	3,032	3,080	30,508	16,136
1980	3,079	3,047	30,079	15,618
1981	3,060	3,094	29,721	15,067
1982	3,131	3,075	29,474	14,557
1983	3,236	3,145	29,276	14,286
1984	3,375	3.251	29,137	14,282
1985	3,532	3,390	29,174	14,358
1986	3,673	3,548	29,622	14,202
1987	3,767	3,689	30,322	13,832
		Series III projections		
1977	3,219	3,508	31,995	16,745
1978	3,065	3,234	31,174	16,544
1979	3,032	3,080	30,508	16,136
1980	3,079	3,047	30,079	15,618
1981	3,024	3,094	29,685	15,067
1982	2,943	3,038	29,249	14,557
1983	2,886	2,958	28,702	14,286
1984	2,901	2,900	28,087	14,282
1985	3,022	2,915	27,615	14,358
1986	3,178	3,036	27,569	14,202
1987	3,283	3,192	27,779	13,832

See footnotes at end of table.

Table B-1.–School-age population (U.S. Census projection series I, II, and III) ages 5, 6, 5-13, and 14-17 years: United States, 1954 to 1987 – Cont.

[Ages as of October 1. Populations in thousands]

Year (fall) (1)	Age 5[1] (2)	Age 6[1] (3)	Ages 5-13[1] (4)	Ages 14-17[2] (5)
	Series I projections			
1977	3,219	3,508	31,995	16,745
1978	3,065	3,234	31,174	16,544
1979	3,032	3,080	30,508	16,136
1980	3,079	3,047	30,079	15,618
1981	3,123	3,094	29,784	15,067
1982	3,430	3,137	29,835	14,557
1983	3,711	3,445	30,114	14,286
1984	3,966	3,727	30,567	14,282
1985	4,189	3,982	31,262	14,358
1986	4,383	4,206	32,420	14,202
1987	4,538	4,399	33,898	13,832

[1] In projecting population, the Bureau of the Census uses a cohort component method in which each of the components of population change (fertility, mortality, and migration) is projected separately. The key assumption in this method is that of completed cohort fertility (average number of births per woman upon completion of childbearing).

The Bureau of the Census uses several different assumptions as to the ultimate completed cohort fertility. The following are three of these assumptions: series I–2.7 children per woman, series II–2.1 children per woman, and series III–1.7 children per woman.

The series II projection is used in this publication for making intermediate projections of educational statistics. The series II projection was selected because the ultimate completed cohort fertility assumption of 2.1 births per woman most closely agrees with the most recent expected fertility data. A population projection based on 2.1 births per woman is also of interest because at this rate and without migration the population would replace itself after enough time had elapsed for the age structure to stabilize.

[2] No fertility assumptions are used for this age group because the persons included are already born.

SOURCES: National Center for Education Statistics estimates are based on adjusted data consistent with U.S. Department of Commerce, Bureau of the Census publications: (1) *Current Population Reports*, "Population Estimates and Projections, Estimates of the Population of the United States by Single Years of Age, Color, and Sex 1900-1959," Series P-25, No. 311, July, 1965, (2) *Current Population Reports*, "Population Estimates and Projections: Estimates of the Population of the United States by Age, Sex, and Race: April 1, 1960 to July 1, 1973," Series P-25, No. 519 April, 1974, (3) *Current Population Reports*, "Population Estimates and Projections: Estimates of the Population of the United States by Age, Sex, and Race: 1970 to 1975," Series P-25, No. 614, November, 1975, (4) *Current Population Reports*, "Population Estimates and Projections: Estimates of the Population of the United States by Age, Sex, and Race: July 1, 1974 to 1976," and (5) *Current Population Reports*, "Population Estimates and Projections: Projections of the Population of the United States: 1977 to 2050," Series P-25, No. 704, July 1977.

Table B-2.- College-age population: United States, 1967 to 1986

[Ages as of October 1. Populations in thousands]

Year (fall) (1)	16 (2)	17 (3)	18 (4)	19 (5)	20 (6)	21 (7)	22 (8)	23 (9)	24 (10)	25-29 (11)	30-34 (12)
Part A. Men											
1967	1,857	1,796	1,791	1,789	1,924	1,545	1,396	1,392	1,478	6,082	5,486
1968	1,910	1,860	1,806	1,794	1,825	1,909	1,517	1,371	1,409	6,414	5,549
1969	1,963	1,913	1,869	1,815	1,834	1,809	1,870	1,487	1,390	6,654	5,638
1970	2,014	1,967	1,924	1,888	1,855	1,811	1,766	1,832	1,505	6,850	5,741
1971	2,051	2,012	1,969	1,935	1,921	1,825	1,762	1,726	1,863	7,092	5,906
1972	2,087	2,048	2,015	1,981	1,970	1,891	1,777	1,723	1,754	7,582	6,159
1973	2,145	2,084	2,050	2,026	2,017	1,939	1,842	1,739	1,753	7,845	6,501
1974	2,146	2,143	2,088	2,062	2,063	1,985	1,888	1,800	1,766	8,178	6,744
1975	2,140	2,144	2,146	2,100	2,101	2,031	1,933	1,847	1,831	8,550	6,942
1976	2,146	2,139	2,149	2,160	2,140	2,068	1,978	1,891	1,877	8,869	7,181
Projected											
1977	2,159	2,143	2,141	2,160	2,199	2,105	2,013	1,933	1,921	8,884	7,696
1978	2,120	2,158	2,146	2,154	2,200	2,163	2,049	1,968	1,966	9,052	7,958
1979	2,089	2,119	2,160	2,158	2,193	2,164	2,107	2,004	2,001	9,265	8,293
1980	2,045	2,088	2,122	2,174	2,198	2,158	2,107	2,060	2,037	9,497	8,658
1981	1,950	2,044	2,091	2,134	2,214	2,163	2,100	2,060	2,093	9,699	8,985
1982	1,858	1,950	2,047	2,102	2,173	2,177	2,105	2,054	2,094	9,912	9,005
1983	1,809	1,859	1,953	2,059	2,142	2,138	2,120	2,059	2,087	10,079	9,174
1984	1,786	1,809	1,861	1,964	2,098	2,107	2,082	2,073	2,092	10,197	9,387
1985	1,814	1,785	1,812	1,872	2,002	2,063	2,051	2,035	2,106	10,285	9,617
1986	1,859	1,813	1,788	1,823	1,908	1,968	2,009	2,006	2,069	10,352	9,818
Part B. Women											
1967	1,794	1,737	1,744	1,749	1,873	1,508	1,381	1,395	1,487	6,195	5,596
1968	1,839	1,799	1,760	1,760	1,780	1,854	1,496	1,376	1,424	6,521	5,678
1969	1,891	1,846	1,823	1,780	1,790	1,758	1,836	1,487	1,406	6,754	5,783
1970	1,942	1,898	1,872	1,850	1,814	1,767	1,740	1,824	1,507	6,941	5,892
1971	1,974	1,945	1,922	1,896	1,874	1,778	1,774	1,727	1,867	7,174	6,058
1972	2,010	1,976	1,967	1,945	1,919	1,836	1,753	1,731	1,767	7,654	6,309
1973	2,064	2,012	1,999	1,990	1,968	1,880	1,812	1,741	1,771	7,910	6,649
1974	2,067	2,066	2,035	2,023	2,015	1,928	1,855	1,797	1,781	8,243	6,895
1975	2,065	2,070	2,090	2,059	2,048	1,974	1,903	1,840	1,838	8,617	7,091
1976	2,065	2,067	2,095	2,116	2,085	2,006	1,947	1,887	1,882	8,940	7,321
Projected											
1977	2,076	2,067	2,091	2,119	2,141	2,043	1,980	1,932	1,930	8,955	7,825
1978	2,039	2,079	2,091	2,117	2,146	2,098	2,017	1,965	1,978	9,119	8,083
1979	2,006	2,041	2,104	2,117	2,143	2,103	2,072	2,002	2,011	9,323	8,419
1980	1,963	2,009	2,066	2,129	2,144	2,100	2,076	2,156	2,148	9,551	8,785
1981	1,873	1,966	2,033	2,091	2,155	2,100	2,074	2,060	2,103	9,757	9,119
1982	1,786	1,882	1,991	2,058	2,177	2,112	2,074	2,058	2,109	9,975	9,138
1983	1,740	1,789	1,904	2,015	2,084	2,074	2,086	2,058	2,106	10,148	9,304
1984	1,714	1,743	1,811	1,928	2,040	2,041	2,049	2,070	2,106	10,272	9,511
1985	1,742	1,717	1,765	1,834	1,952	1,998	2,016	2,033	2,118	10,364	9,739
1986	1,781	1,745	1,738	1,787	1,857	1,913	1,974	2,001	2,081	10,432	9,946

SOURCES: National Center for Education Statistics estimates are based on adjusted data consistent with U.S. Department of Commerce, Bureau of the Census publications: (1) *Current Population Reports*, "Population Estimates and Projections, Estimates of the Population of the United States by Single Years of Age, Color and Sex 1900-1959," Series P-25, No. 311, July, 1965, (2) *Current Population Reports*, "Population Estimates and Projections: Estimates of the Population of the United States by Age, Sex, and

Race: April 1, 1960 to July 1, 1973," Series P-25, No. 519 April, 1974, (3) *Current Population Reports*, "Population Estimates and Projections: Estimates of the Population of the United States by Age, Sex, and Race: 1970 to 1975," Series P-25, No. 614, November, 1975, (4) *Current Population Reports*, "Population Estimates and Projections: Estimates of the Population of the United States by Age, Sex, and Race; July 1, 1974 to 1976." and (5) *Current Population Reports*, "Population Estimates and Projections: Projections of the Population of the United States: 1977 to 2050," Series P-25, No. 704, July 1977.

Table B-3.–Composite populations representative of the age distribution of degree recipients, with projection, by sex: 1961 to 1987[1]

[Populations in thousands]

Year (fall)	Composite population					
	Bachelor's degrees		Master's degrees		Doctor's degrees	
	Men	Women	Men	Women	Men	Women
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1961	5,700	5,783	5,634	5,752	5,751	5,855
1962	5,882	5,992	5,649	5,754	5,678	5,835
1963	6,128	6,264	5,690	5,788	5,665	5,829
1964	6,324	6,477	5,734	5,832	5,661	5,831
1965	6,496	6,648	5,783	5,879	5,669	5,844
1966	6,716	6,862	5,875	5,967	5,711	5,887
1967	7,125	7,285	6,022	6,115	5,790	5,965
1968	7,404	7,541	6,201	6,299	5,916	6,081
1969	7,704	7,836	6,341	6,443	6,013	6,171
1970	8,004	8,147	6,472	6,567	6,105	6,251
1971	8,290	8,437	6,637	6,734	6,242	6,368
1972	8,439	8,518	6,924	7,031	6,500	6,592
1973	8,640	8,689	7,132	7,246	6,717	6,780
1974	8,879	8,897	7,360	7,486	6,928	6,967
1975	9,144	9,124	7,599	7,735	7,138	7,154
1976	9,379	9,334	7,832	7,977	7,355	7,347
			Projected			
1977	9,559	9,530	7,985	8,137	7,576	7,545
1978	9,740	9,710	8,177	8,332	7,786	7,737
1979	9,901	9,859	8,402	8,562	8,033	7,964
1980	10,047	9,985	8,635	8,804	8,289	8,200
1981	10,167	10,086	8,841	9,020	8,515	8,416
1982	10,218	10,122	9,025	9,204	8,688	8,593
1983	10,243	10,126	9,217	9,398	8,892	8,802
1984	10,233	10,093	9,378	9,566	9,085	8,999
1985	10,151	9,988	9,520	9,716	9,275	9,193
1986	9,995	9,801	9,636	9,840	9,455	9,377
1987	9,806	9,601	9,721	9,931	9,588	9,536

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[1] The composite populations used for projecting degrees were derived by (a) prorating to 100 percent the detruncated percentage distribution of the ages of degree recipients by level and sex; and (b) applying these percentages to corresponding age groups which were consistent with the populations shown in tables B-1 and B-2. The age distribution of bachelor's and master's degree recipients by sex were obtained from the *Survey of 1974-75 College Graduates.* The age distributions of doctor's degree recipients were obtained from unpublished data from *Doctorate Recipients from United States Universities, 1976.*

SOURCES: National Center for Education Statistics estimates are based on (1) adjusted data consistent with U.S. Department of Commerce, Bureau of the Census, publications: (a) *Current Population Reports,* "Population Estimates and Projections: Estimates of the Population of the United States by Age, Sex, and Race: April 1, 1960 to July 1, 1973," Series P-25, No. 519, April 1974; (b) *Current Population Reports,* "Population Estimates and Projections: Estimates of the Population of the United States by Age, Sex, and Race: 1970 to 1975," Series P-25, No. 614, November 1975; (c) *Current Population Reports,* "Population Estimates and Projections: Estimates of the Population of the United States by Age, Sex, and Race: July 1, 1974 to 1976," Series P-25, No. 643, January 1977; and (d) "Population Estimates and Projections, Projections of the Population of the United States: 1977 to 2050," Series P-25, No. 704, July 1977; (2) National Center for Education Statistics publication: *Survey of 1974-75 College Graduates*; and (3) unpublished data consistent with data in National Research Council publication: *Summary Report 1976, Doctorate Recipients from United States Universities.*

Table B-4.–Constant-dollar index

[1976-77 = 100]

July to June (1)	Consumer price index[1] (2)	Construction cost index[2] (3)
1963-64	52.584	40.902
1964-65	53.257	41.961
1965-66	54.413	43.529
1966-67	56.096	46.000
1967-68	57.968	48.471
1968-69	60.761	52.471
1969-70	64.358	56.118
1970-71	67.676	61.647
1971-72	70.118	68.471
1972-73	72.948	74.588
1973-74	79.475	80.784
1974-75	88.258	85.608
1975-76	94.520	92.902
1976-77	100.000	100.000

[1] The monthly indexes were averaged on a July-to-June basis to correspond with the school year and converted to 1976-77 = 100. The 1967 = 100 index number for 1976-77 was 175.800.

[2] The monthly indexes were averaged on a July-to-June basis to correspond with the school year and converted to 1976-77 = 100. The 1967 = 100 index number for 1976-77 was 212.500.

SOURCES: The Consumer Price Index, prepared by the Bureau of Labor Statistics, U.S. Department of Labor; and the American Appraisal Company Construction Cost Index, published in *Construction Review* by the U.S. Department of Commerce.

Table B-5.—Estimated receipts by regular and "other" educational institutions, by level and control of institution and source: United States, 1967-68 to 1975-76[1]

Level and control of institution and source (1)	1967-68 (2)	1969-70 (3)	1971-72 (4)	1973-74 (5)	1975-76 (6)	1967-68 (7)	1969-70 (8)	1971-72 (9)	1973-74 (10)	1975-76 (11)
	AMOUNT (in billions of current dollars)					Percent				
All levels of education:										
Total, public and nonpublic	$58.9	$72.2	$88.0	$101.8	$123.6	100.0	100.0	100.0	100.0	100.0
Federal	7.0	7.6	9.6	10.6	13.3	11.9	10.5	10.9	10.4	10.8
State	17.4	22.9	27.3	34.5	44.5	29.5	31.7	31.0	33.9	36.0
Local	18.9	23.0	28.7	30.5	35.1	32.1	31.9	32.6	30.0	28.4
All other	15.6	18.7	22.4	26.2	30.7	26.5	25.9	25.5	25.7	24.8
Total, public	46.8	58.4	71.6	82.9	101.5	100.0	100.0	100.0	100.0	100.0
Federal	5.3	5.9	7.7	8.6	10.7	11.3	10.1	10.8	10.4	10.5
State	17.3	22.8	27.1	34.2	44.2	37.0	39.0	37.8	41.2	43.6
Local	18.9	22.9	28.6	30.4	35.0	40.4	39.2	39.9	36.7	34.5
All other	5.3	6.8	8.2	9.7	11.6	11.3	11.7	11.5	11.7	11.4
Total nonpublic	12.1	13.8	16.4	18.9	22.1	100.0	100.0	100.0	100.0	100.0
Federal	1.7	1.7	1.9	2.0	2.6	14.1	12.3	11.6	10.6	11.8
State	.1	.1	.2	.3	.3	.8	.7	1.2	1.6	1.4
Local	([2])	.1	.1	.1	.1	([3])	.7	.6	.5	.4
All other	10.3	11.9	14.2	16.5	19.1	85.1	86.3	86.6	87.3	86.4
Elementary and secondary schools:										
Total, public and nonpublic	37.9	46.4	57.5	65.6	79.1	100.0	100.0	100.0	100.0	100.0
Federal	3.0	3.4	4.7	5.1	6.5	7.9	7.3	8.2	7.8	8.2
State	12.3	16.1	19.1	24.1	31.1	32.5	34.7	33.2	36.7	39.3
Local	18.3	22.0	27.5	29.1	33.4	48.3	47.4	47.8	44.4	42.2
All other	4.3	4.9	6.2	7.3	8.1	11.3	10.6	10.8	11.1	10.3
Total, public	33.7	41.6	51.4	58.4	71.1	100.0	100.0	100.0	100.0	100.0
Federal	3.0	3.4	4.7	5.1	6.5	9.0	8.2	9.1	8.7	9.2
State	12.3	16.1	19.1	24.1	31.1	36.5	38.6	37.2	41.3	43.7
Local	18.3	22.0	27.5	29.1	33.4	54.2	52.9	53.5	49.8	47.0
All other	.1	.1	.1	.1	.1	.3	.3	.2	.2	.1

Total, nonpublic	4.2	4.8	6.1	7.2	8.0	100.0	100.0	100.0	100.0	100.0
Federal	...	...	...	...	...	...	...	...	...	...
State	...	...	...	...	...	...	...	...	...	...
Local	...	...	...	...	...	...	...	...	...	...
All other	4.2	4.8	6.1	7.2	8.0	100.0	100.0	100.0	100.0	100.0
Institutions of higher education:										
Total, public and nonpublic	21.0	25.8	30.5	36.2	44.5	100.0	100.0	100.0	100.0	100.0
Federal	4.0	4.2	4.9	5.5	6.8	19.1	15.8	15.9	15.0	15.2
State	5.1	6.8	8.2	10.4	13.4	24.3	26.9	26.9	28.7	30.1
Local	.6	1.0	1.2	1.4	1.7	3.0	3.7	3.7	3.9	4.0
All other	11.3	13.8	16.2	18.9	22.6	53.6	53.6	53.5	52.4	50.7
Total, public	13.1	16.8	20.2	24.5	30.4	100.0	100.0	100.0	100.0	100.0
Federal	2.3	2.5	3.0	3.5	4.2	17.3	14.9	14.7	14.1	13.8
State	5.0	6.7	8.0	10.1	13.1	38.2	39.7	39.7	41.1	43.0
Local	.6	.9	1.1	1.3	1.6	4.6	5.1	5.4	5.5	5.4
All other	5.2	6.7	8.1	9.6	11.5	39.9	40.3	40.2	39.3	37.8
Total, nonpublic	7.9	9.0	10.3	11.7	14.1	100.0	100.0	100.0	100.0	100.0
Federal	1.7	1.7	1.9	2.0	2.6	22.1	18.3	18.3	17.1	18.1
State	.1	.1	.2	.3	.3	1.3	1.6	2.0	2.5	2.3
Local	(2)	.1	.1	.1	.1	.3	.7	.5	.6	.8
All other	6.1	7.1	8.1	9.3	11.1	76.3	78.9	79.2	79.8	78.8

[1] Includes estimates for "other" elementary and secondary schools such as residential schools for exceptional children, Federal schools for Indians, and federally operated elementary and secondary schools on military posts. The annual receipts of "other" elementary and secondary schools were estimated as follows: Public, $200 million, annually, 1967-68 to 1973-74 and $300 million for 1976-76; nonpublic, $100 million, annually, 1967-68 to 1975-76.

[2] Less than $50 million.

[3] Less than 0.05 percent.

NOTE.–Receipts include revenue and nonrevenue receipts, current and plant-fund receipts, and proceeds of loans, less transfers which would result in duplication, and less repayment of loans. All receipts and deductions concerning loans are included in "all other" sources. Deduction of transfers was made from data in "all other" sources.

Table B-6.–Federal funds for education and related activities,

[In thousands

Type of support, level, and program area (1)	1960 (2)	1962 (3)	1964 (4)	1966 (5)	1968 (6)	1969 (7)
						Part I. Federal funds supporting
Total grants and loans	**$ 1,733,543**	**$ 2,141,278**	**$ 2,825,361**	**$ 5,843,755**	**$ 7,854,900**	**$ 8,148,771**
Grants, total	**1,493,217**	**1,820,746**	**2,360,467**	**5,232,055**	**7,251,[illegible]19**	**7,645,491**
Elementary and secondary education	490,480	542,320	666,501	2,037,103	2,967,004	2,838,439
School assistance in federally affected areas	258,198	282,909	334,289	409,593	506,372	397,581
Educationally deprived economic opportunity programs[1]	47,239	53,137	67,179	1,151,403	1,685,516	1,648,540
Supporting services	63,939	55,491	72,264	169,270	389,490	364,423
Teacher Corps	....	4,000	5,100	6,325	16,019	19,358
Vocational education	32,800	37,579	39,569	93,268	185,224	152,441
Dependents' schools abroad	32,766	40,520	61,500	79,100	68,220	108,589
Public lands revenue for schools	40,994	43,524	48,600	54,144	52,294	66,112
Assistance in special areas[3]	10,017	20,760	32,600	68,800	58,286	71,118
Veterans' education	....	....	....	....	3,200	4,924
Emergency school assistance	....	....	....	....	....	....
Other[4]	4,527	4,400	5,400	5,200	2,383	5,353
Higher education	829,880	1,170,322	1,456,835	2,271,747	3,240,170	3,346,219
Basic research in U.S. education institutions proper[5]	407,000	602,900	698,600	941,000	1,039,000	1,020,000
Research facilities		121,800	133,500	194,000	199,790	238,516
Training grants, fellowships, and traineeships	159,494	299,900	443,000	630,400	701,419	652,830
Facilities and equipment	1,206	3,404	32,535	109,547	549,382	482,387
Other institutional support	13,580	26,718	69,500	163,800	139,637	173,066
Other student assistance	248,600	103,900	62,300	214,200	608,883	769,445
Other higher education assistance	....	11,700	17,400	18,800	2,059	9,975
Vocational-technical and continuing education (not classifiable by level)	172,857	108,104	237,131	923,205	1,044,445	1,460,833
Vocational, technical, and work training[7]	16,144	23,821	158,231	821,300	851,683	1,163,444
Veterans' education	134,300	49,900	25,100	6,300	79,645	123,970
General continuing education[8]	(9)	(9)	(9)	(9)	28,701	60,364
Training State, local, and Federal civilian personnel	22,413	34,383	53,800	95,605	84,316	113,055
Loans, total (higher education)	**240,326**	**320,532**	**464,894**	**611,700**	**603,281**	**503,280**
Student loan program, National Defense Education Act[10]	40,326	74,632	177,394	235,900	226,303	230,694
College facilities loans[11]	200,000	245,900	287,500	375,800	376,978	272,586
						Part II. Other Federal funds for
Total	**2,267,031**	**2,738,836**	**3,169,179**	**3,820,339**	**3,547,015**	**3,237,888**
Applied research and development[5]	471,000	754,700	906,300	1,054,000	1,157,000	1,230,000
School lunch and milk programs	305,512	366,900	411,700	421,900	543,845	597,700
Training of Federal personnel	1,009,113	1,146,000	1,322,400	1,625,100	1,065,069	545,573
U.S. military academies	53,113	59,416	119,796	154,593	141,599	170,468
Professional training, military	[12]956,000	1,086,584	1,202,604	1,470,507	923,470	375,105
Library services	21,105	22,232	25,243	72,215	136,099	186,124
Grants to public libraries	6,056	6,932	7,443	40,915	62,017	62,794
National library services[13]	15,049	15,300	17,800	31,300	74,082	123,330
International education	83,525	102,050	112,600	229,429	272,008	278,135
Educational exchange program	22,450	21,050	20,600	50,271	41,670	38,172
Agency for International Development projects	61,075	81,000	92,000	179,158	140,000	170,000
ACTION (previously Peace Corps)					43,641	44,095
Other international education and training					46,697	25,868

See footnotes at end of table.

by type of support, level, and program area: 1960 to 1978

of dollars]

1970 (8)	1971 (9)	1972 (10)	1973 (11)	1974 (12)	1975 (13)	1976 (14)	Transition quarter (15)	1977 (estimated) (16)	1978 (estimated) (17)
education in educational institutions									
$ 9,235,737	$10,949,607	$11,781,979	$12,695,981	$13,090,411	$17,604,360	$19,483,000	$ 4,829,442	$19,427,497	$18,446,025
8,727,781	10,615,166	11,433,253	12,350,249	12,738,549	17,124,710	19,087,094	4,610,561	18,962,324	17,959,262
3,212,418	3,724,363	3,856,527	4,084,972	4,207,467	4,998,055	4,819,460	1,311,555	5,282,363	5,578,721
656,372	527,043	648,608	580,493	558,527	618,711	598,884	74,898	847,000	496,000
1,742,376	2,239,637	2,087,154	2,278,931	2,264,410	2,764,880	2,646,909	805,962	2,897,155	3,351,007
296,079	259,899	310,378	317,795	273,783	360,803	335,950	76,241	330,881	363,448
18,191	28,761	23,887	32,092	33,073	39,002	23,600	6,125	28,534	18,522
181,379	241,481	282,545	305,728	289,610	350,867	387,886	41,744	367,066	389,979
137,138	146,615	168,908	190,603	218,287	234,981	237,296	91,901	263,758	321,533
82,376	78,893	73,285	90,646	110,116	148,557	130,774	124,443	88,360	198,089
78,992	120,719	156,757	176,922	159,549	136,465	117,753	19,284	122,746	118,825
6,233	13,763	16,674	43,835	67,483	113,600	140,400	19,400	104,000	84,200
....	51,239	68,816	43,391	184,507	197,426	171,790	43,740	200,799	200,277
13,282	16,313	19,515	24,536	48,122	32,763	28,218	7,817	32,064	36,841
3,910,878	4,895,588	5,172,443	5,964,987	6,063,691	7,991,835	9,605,188	1,963,372	9,203,729	8,002,416
984,000	1,054,385	1,192,167	1,175,498	1,299,824	1,270,639	1,387,250	376,000	1,482,644	[6]483,000
225,130	227,908	175,747	204,985	183,274	167,716	189,018	61,000	325,928	[6]326,000
895,960	1,037,202	982,008	968,918	997,977	1,081,923	1,036,963	333,127	998,990	834,052
513,162	518,944	400,147	451,658	262,526	336,408	295,766	43,038	177,504	157,316
178,156	266,090	292,291	339,625	363,732	427,588	487,519	78,621	478,468	472,543
1,101,924	1,781,581	2,130,083	2,824,303	2,956,358	4,707,561	1,208,672	1,071,586	5,740,195	4,729,505
12,546	9,478	....	....	....	....	....	....	....	....
1,604,485	1,995,215	2,404,283	2,300,290	2,467,391	4,134,820	4,662,446	1,335,634	4,476,232	4,378,125
1,269,254	1,515,741	1,829,481	1,474,847	1,494,927	3,037,000	3,405,000	1,132,000	3,490,000	3,501,000
244,634	357,414	429,229	658,424	800,375	898,900	984,100	148,400	727,500	605,600
65,855	88,305	125,715	149,738	148,117	151,971	208,192	38,547	186,694	189,874
24,742	33,755	19,858	17,281	23,972	46,949	65,154	16,687	72,038	81,651
507,966	334,441	348,726	345,732	351,862	479,650	395,906	218,881	465,173	486,763
196,843	231,706	287,163	324,551	362,795	448,874	419,849	137,500	409,283	382,000
311,123	102,735	61,563	21,181	-10,933	30,776	-23,943	81,381	55,890	104,763
education and related activities									
3,416,583	3,989,283	4,515,533	4,705,926	4,846,963	5,862,561	6,215,875	1,462,062	7,348,680	6,616,954
1,240,000	1,318,963	1,470,556	1,465,356	1,708,589	2,067,170	2,246,431	579,000	2,336,004	[6]2,336,000
676,196	928,188	1,213,075	1,298,002	1,266,673	1,831,784	1,890,276	393,005	3,023,363	2,171,590
676,302	832,968	950,227	1,055,605	968,456	996,481	975,380	284,523	1,097,131	1,172,389
184,262	218,869	232,047	275,671	248,567	248,567	281,847	76,508	313,596	333,348
492,040	614,099	718,180	779,934	719,889	726,809	693,533	208,015	783,535	839,041
170,135	186,338	165,096	166,712	207,075	227,645	249,883	56,900	289,128	307,471
50,235	52,975	56,246	45,782	43,202	61,531	57,171	7,925	63,410	52,614
119,900	133,363	108,850	120,930	163,873	166,114	192,712	48,975	225,718	254,857
193,464	180,668	122,740	77,929	94,563	93,474	73,768	15,482	87,519	97,404
30,850	36,101	37,837	28,131	30,510	32,349	32,820	8,200	35,204	36,744
111,325	103,608	55,612	22,555	47,231	45,224	32,581	4,848	44,234	53,934
28,150	25,026	19,819	22,013	15,084	7,207	6,633	1,820	6,127	4,744
23,139	13,933	9,472	5,230	1,738	8,694	1,734	614	1,954	1,982

Table B-6.–Federal funds for education and related activities, by

[In thousands

Type of support, level, and program area (1)	1960 (2)	1962 (3)	1964 (4)	1966 (5)	1968 (6)	1969 (7)
						Part I. Federal funds supporting
Other	376,776	346,954	390,936	417,695	372,994	400,356
Agricultural extension service	53,715	59,252	79,400	89,216	90,030	97,273
Educational television facilities[14]	....	....	....	4,663	6,737	8,756
Education in Federal correctional institutions	1,453	2,138	2,885	3,615	3,662	3,816
Value of surplus property transferred:						
Acquisition cost of personal property	310,000	244,900	268,700	266,400	199,383	223,503
Fair value of real property		21,000	15,100	15,100	26,276	13,254
Other[15]	11,608	19,664	24,851	38,701	46,906	53,754

[1] Includes Office of Economic Opportunity, Indian education, Appalachian Regional Development Commission, and Department of Labor programs as well as Head Start preschool, Elementary and Secondary Education Act title I, handicapped children, dropout prevention, bilingual education, Kendall School for the Deaf, and Model School for the Deaf.

[2] Includes supplemental centers, school library materials, strengthening State education agencies, captioned films for the deaf, dissemination of information, school counseling and testing, American Printing House for the Blind, planning and evaluation, and equipment and minor remodeling.

[3] Includes funds for the District of Columbia, Canal Zone, territories and dependencies, Cuban refugees, and payments in lieu of taxes other than P.L. 81-874 and P.L. 81-815 funds for Federally affected areas.

[4] Includes elementary-secondary programs of the National Science Foundation, National Endowment for the Arts, National Endowment for the Humanities, Department of Defense (Junior ROTC), and National Aeronautics and Space Administration; also, Office of Child Development and Office of Education programs and expenditures not otherwise included.

[5] Data are from *Federal Funds for Research, Development, and Other Scientific Activities*, annual publication, National Science Foundation. Includes university-operated research and development centers.

[6] 1978 amounts are not available. Data are amounts for 1977, rounded to nearest million.

[7] Includes adult vocational education and manpower training programs.

[8] Includes Office of Education, ACTION, Social and Rehabilitation Service, Department of Housing and Urban Development, Office of Economic Development, and additional programs for continuing education.

[9] Included in "vocational, technical, and work training."

[10] Includes National Defense Education Act and insured student loans.

[11] Includes net amounts (loans minus loan repayments) for the Department

type of support, level, and program area: 1960 to 1978 – Cont.

of dollars]

1970 (8)	1971 (9)	1972 (10)	1973 (11)	1974 (12)	1975 (13)	1976 (14)	Transition quarter (15)	1977 (estimated) (16)	1978 (estimated) (17)
education in educational institutions									
460,486	542,160	593,839	642,322	601,607	646,007	780,137	133,152	515,335	532,100
124,526	154,672	169,811	185,803	193,436	219,012	219,407	56,973	240,855	240,273
19,163	28,580	8,000	28,568	22,000	64,708	79,373	29,540	113,213	120,081
5,007	6,333	9,066	9,494	10,172	10,520	11,657	2,787	14,060	14,871
246,330	255,668	299,805	276,699	255,937	216,135	294,692	9,886	NA	NA
12,468	25,718	12,200	25,288	18,226	37,031	21,660	1,494	NA	NA
52,992	71,189	94,957	116,470	101,836	98,601	153,348	32,472	147,407	156,875

of Housing and Urban Development college housing loans, Office of Education college facilities loans, and Federal loans to the District of Columbia for school construction.

[12] Actual figure not available. Amount estimated is 88 percent of 1962 amount.

[13] Includes Library of Congress, Smithsonian Institution, General Services Administration, National Archives and Records Service, National Agricultural Library, National Library of Medicine, Government Printing Office depository library and catalog and Index activities, and the National Commission on Library and Information Science.

[14] Also includes education broadcasting facilities.

[15] Includes Education Division, Office of Education and other education program and administration expenditures not otherwise included.

NOTE.–Public Law 93-344 established a new fiscal year period (October 1 through September 30) effective with fiscal year 1977. The transition quarter is the 3-month period between fiscal year 1976 which ended June 30, 1976 and fiscal year 1977 which began October 1, 1976.

SOURCE: Compiled by the National Center for Education Statistics, U.S. Department of Health, Education, and Welfare, from information collected by the Office of Management and Budget for its annual report, *Special Analyses, Budget of the United States.* Research data are from the annual reports of the National Science Foundation, *Federal Funds for Research, Development, and Other Scientific Activities.*

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Table B-7.—Office of Education expenditures,

[In thousands

Program	1960	1962	1964	1966	1968
Total	$ 459,965	$ 547,408	$ 673,005	$ 2,024,528	$ 3,613,476
Elementary and secondary education[3]	63,529	54,821	71,489	915,174	1,436,732
Educationally deprived children[4]	....	....	....	746,904	1,049,116
Consolidated programs[5]	63,529	54,821	71,489	168,270	387,616
Bilingual education	....	....	....	....	....
School assistance in federally affected areas	258,198	282,909	334,289	409,593	506,372
Maintenance and operation	174,850	226,419	283,688	353,851	470,887
Construction	83,348	56,490	50,601	55,742	35,485
Higher education[6]	40,326	74,532	111,729	212,264	532,690
University community services	....	....	....	3,926	9,897
Library programs					
College library resources	....	....	....	....	48,906
Library training	....	....	....	....	11,381
Strengthening developing institutions	....	....	....	....	22,428
Student assistance					
Educational opportunity grants[7]	....	....	....	....	103,104
Work-study and cooperative education	....	....	....	30,634	111,812
Direct loans to students[8]	40,326	74,532	111,729	177,394	182,825
Insured loans	....	....	....	....	28,947
Student loans insurance fund	....	....	....	....	....
Special programs for disadvantaged[9]	....	....	....	10	2,497
TV and other instructional equipment	....	....	....	....	5,415
Miscellaneous other[10]	....	....	....	300	5,478
Higher education facilities	....	....	....	105,526	461,965
Grants[11]	....	....	....	54,634	360,246
Construction loans	....	....	....	50,892	101,719
Construction loan interest subsidization	....	....	....	....	....
Vocational education[12]	45,179	51,762	54,503	128,468	255,224
Basic vocational education programs[13]	45,179	51,762	54,503	118,396	250,197
Consumer and homemaking education	....	....	....	....	....
Work-study and cooperative education	....	....	....	10,072	5,027
State and National advisory councils	....	....	....	....	....
Education personnel training[14]	23,912	45,531	51,203	97,543	178,652
Higher education[15]	14,921	30,695	34,768	44,586	80,084
Teacher Corps	....	....	....	362	16,019
Special education (handicapped)	308	943	2,466	10,448	24,162
Other	8,683	13,893	13,969	42,147	58,387
Public library service and construction	6,056	6,932	7,443	40,915	62,017
Public library services	6,056	6,932	7,443	25,000	34,306
Public library construction	....	....	....	15,915	26,615
Interlibrary cooperation[16]	....	....	....	....	1,096
Education for the handicapped[17]	72	248	2,516	4,918	16,793
State grant program	....	....	....	....	7,867
Early childhood education	....	....	....	....	....
Special centers, projects, and research	....	....	1,016	3,227	8,277
Captioned films and media services	72	248	1,500	1,691	649

See footnotes at end of table.

by program: Fiscal years 1960 to 1978

of dollars]

1970	1972	1974	1975	1976	Transition quarter[2]	1977[1]	1978[1]
$ 4,111,598	$ 4,903,711	$ 4,884,916	$ 6,419,420	$ 6,813,550	$ 1,735,115	$ 8,047,478	$ 7,845,239
1,467,792	1,869,081	1,766,412	2,376,221	2,166,322	670,983	2,260,645	2,679,394
1,170,355	1,570,388	1,460,058	1,959,897	1,760,814	559,703	1,858,300	2,212,823
291,245	272,683	268,000	353,495	326,006	73,861	319,875	351,790
6,192	26,010	38,354	62,829	79,502	37,419	82,470	114,781
656,372	648,608	558,526	618,711	598,884	74,898	847,000	496,000
620,463	628,305	536,089	597,859	575,526	65,901	831,350	475,586
35,909	20,303	22,437	20,852	23,358	8,997	15,641	20,414
707,419	1,035,983	1,150,051	1,869,711	2,547,852	647,332	3,149,834	2,696,499
10,669	9,518	22,833	12,822	12,275	723	11,708	1,095
34,063	3,915	10,107	12,389	12,813	2,000	8,280	9,640
7,005	2,469	2,824	3,613	2,030	225	700	146
27,731	35,766	48,858	89,122	78,063	29,762	108,211	112,024
142,577	167,600	239,212	608,977	1,146,950	291,194	1,788,749	1,736,125
170,075	251,997	82,090	243,941	434,961	88,458	398,343	280,321
194,520	287,163	281,339	345,261	286,296	86,925	271,256	15,160
98,330	201,321	294,346	333,849	297,193	77,433	322,567	86,271
2,323	26,589	83,823	111,087	133,508	57,517	150,103	382,000
7,437	43,963	77,551	88,780	132,128	10,829	79,978	72,096
4,968	5,684	3,783	19,179	8,558	1,819	6,709	926
5,721	....	3,285	1,191	3,077	447	3,230	695
437,387	212,628	77,900	98,031	28,383	35,895	72,064	54,000
323,188	188,121	52,805	67,324	24,650	-2,000	38,131	19,065
114,199	24,468	13,014	16,292	-14,089	31,200	6,407	7,292
....	39	12,081	14,415	17,822	6,695	27,526	27,643
283,975	416,945	462,236	529,656	590,856	63,132	557,278	593,796
271,282	370,619	399,209	459,866	514,057	51,056	481,692	528,855
5,059	19,091	30,318	34,756	42,541	5,993	42,751	46,203
5,322	24,256	28,716	30,490	29,964	5,117	27,634	14,235
2,312	2,979	3,993	4,544	4,294	966	5,201	4,503
233,912	204,650	197,394	163,838	106,863	31,029	117,235	113,548
90,078	72,365	55,465	18,359	9,918	3,934	21,860	13,920
18,191	23,887	33,073	39,002	23,600	6,125	38,042	34,586
31,219	25,205	32,614	39,612	39,392	17,035	37,381	39,233
94,424	83,193	76,242	66,865	33,953	3,935	19,952	25,809
52,687	54,086	44,441	62,362	58,307	8,146	64,200	52,958
33,489	44,284	36,230	49,660	47,531	6,000	57,760	47,730
17,527	7,184	4,127	7,940	7,040	1,280	2,960	984
1,671	2,618	4,084	4,762	3,736	866	3,480	4,244
47,846	67,933	89,947	115,242	152,050	38,400	281,797	382,486
31,073	32,657	43,016	58,128	89,718	16,458	197,259	292,142
.....	6,687	11,065	14,708	14,089	4,501	18,938	18,711
12,515	16,883	22,648	31,777	33,169	13,986	49,613	55,313
4,258	11,706	13,218	10,629	15,074	3,555	15,987	16,320

Table B-7.—Office of Education expenditures, by

[In thousands

Program	1960	1962	1964	1966	1968
Research, special studies and projects[18]	6,004	7,461	12,712	31,245	79,955
Land-grant colleges	5,052	10,744	14,500	14,500	14,500
Special foreign currency	....	6	138	500	857
Adult basic education[19]	....	....	....	33,616	28,701
Emergency school aid[20]	....	....	....	5,291	7,437
Educational TV and broadcasting facilities[21]	....	....	....	....	....
Follow Through	....	....	....	....	....
Indian education	....	....	....	....	....
Indochinese refugee children	....	....	....	....	....
Office of Education salaries and expenditures[22]	11,608	12,664	14,251	25,901	40,906
Consolidated Working Fund net advances and reimbursement	+29	–202	–1,768	–1,026	–9,325
Expenditures from funds transferred to the Office of Education by other Federal agencies[23]					
Manpower Development and Training Act[24]	....	....	64,777	75,532	99,451
Educational television facilities	....	....	1,962	4,663	6,737
Mutual exchange activities (foreign currency)[25]	....	....	....	1,592	1,434
Appalachian Regional Development and Training Act[26]	....	....	....	....	21,753
Cuban Refugee Program	....	$ 5,195	$ 9,603	$ 9,302	$ 6,990
Office of Economic Opportunity[28]	....	....	....	54,681	686
Consolidated Working Fund - gross outlay	62	3,068	2,250	10,515	11,395

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[1] Estimated.

[2] Public Law 93-344 established a new fiscal year period (October 1 through September 30) effective with fiscal year 1977. The transition quarter is the 3-month period between fiscal year 1976 which ended June 30, 1976, and fiscal year 1977 which began October 1, 1976.

[3] Includes amounts distributed under provisions of the Elementary and Secondary Education Act of 1965 (ESEA) and the National Defense Education Act (NDEA). Funds authorized under title VI of ESEA for education of the handicapped are not included here but under "education for the handicapped."

[4] Title I of ESEA includes funds for students more than 1 year below grade level, Indian children migratory children, handicapped children, and neglected and delinquent children.

[5] Includes amounts authorized under titles II, III, and V of ESEA and NDEA titles III, X, and a portion of V for guidance, counseling, and testing.

[6] Includes amounts distributed under provisions of the Higher Education Act, as amended, and direct loans to students provided under title II of NDEA. Amounts for Teacher Corps and for institutes and fellowships for college personnel are included under "education personnel training."

program: Fiscal years 1960 to 1978 – Cont.

of dollars]

1970	1972	1974	1975	1976	Transition quarter[2]	1977[1]	1978[1]
93,120	132,040	119,375	98,867	65,242	28,105	142,299	208,372
21,961	12,600	12,200	12,200	12,200	–	14,200	–
774	2,279	1,908	1,881	1,734	614	1,954	1,982
43,464	55,971	63,270	68,999	63,835	14,314	79,330	81,240
10,608	92,214	196,045	187,833	204,027	50,871	219,144	221,165
4,163	12,182	5,859	21,793	15,919	4,736	16,057	19,202
....	2,024	46,595	53,179	39,825	22,000	49,600	54,600
....	....	15,694	40,036	42,046	18,954	50,720	45,488
....	....	....	....	....	....	3,500	15,000
47,714	84,694	77,411	100,6[illegible]0	117,618	26,946	120,[illegible]21	129,509
+2,404	–207	–348	+210	584	–1,239		
121,451	126,500	127,925	71,857	–23,145			
....	....	....	....	....			
930	873	646	827	371			
27,128	36,640	42,972	43,377	11,388			
$ 19,488	$ 18,110	$ 11,630	$ 3,885	$ [27]5,238			
38,234	78,096	2,272	589	–411			
6,165	3,377	2,381	2,718	60			

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[7] Includes Basic and Supplemental Opportunity Grants, grants for State student incentives, public service fellowships, mining fellowships, and training for disadvantaged.

[8] Includes loans and loan cancellations.

[9] Includes Talent Search, Special Services for Disadvantaged Students, Upward Bound, and Veterans' Cost-of-Instruction payments.

[10] Includes amounts for acquisition and cataloging by the Library of Congress, State higher education administration, State postsecondary education commissions, continuing education project, and miscellaneous other activities.

[11] Includes amounts for undergraduate and graduate facilities, facilities in major disaster areas, and State administration and planning for facilities.

[12] Amounts for research, innovation, and curriculum development are included in "research, special studies and projects." Amounts for vocational teacher training are included in "education personnel training."

[13] Also includes program amounts for students with special needs.

[14] Does not include training under the Civil Rights Program.

[15] Includes language training and area studies, college personnel training and fellowships, and education research training.

[16] Beginning in 1974, also includes library demonstration.

[17] Amounts for teacher training included in "education personnel training."

[18] Includes research and innovative programs and curriculum development for vocational education, and special studies and projects except those provided as part of "Salaries and expenditures" for the Office of Education. Also includes Office of Education funds transferred to the National Institute for Education.

[19] Includes amounts for adult vocational education.

[20] Also includes Civil Rights services and training.

[21] Supported with transferred funds prior to 1969.

[22] Also includes amounts for technical service, planning and evaluation, and special studies and projects not elsewhere covered.

[23] Amounts listed below are not included in the Office of Education expenditure totals.

[24] Includes amounts for Area Development Act.

[25] Includes Educational Exchange Program.

[26] Funds transferred prior to 1967 are included in the Consolidated Working Fund. Since 1972, also includes Development Facilities (Economic Development Assistance, Department of Commerce), Regional Development Programs (Regional Action, Planning Commission), and military construction (Army).

[27] Includes special assistance to refugees from Cambodia and Vietnam in the United States.

[28] Some OEO transfers also included in the Consolidated Working Fund.

NOTE.–Detail may not add to total due to rounding.

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